

Green Growth WITH Integrity



Annual Report 2018

Global Green Chemicals Public Company Limited



Green Growth WITH Integrity

The word 'Green' is in a green sans-serif font with a small green leaf icon above the 'n'. 'Growth' is in a teal sans-serif font with a small teal upward-pointing arrow above the 't'. 'WITH' is in a small, blue, all-caps sans-serif font. 'Integrity' is in a blue sans-serif font with a small blue icon of two hands shaking above the 't'.

“GGC a leading Green Chemical Company
by creating sustainable value”



Living Green

“The Present” Valued “The Future”

GGC driving its business through modern technology, creating innovation to develop production process, new knowledge founded on environment stewardship.



Creating Growth

Creating Value Added, Initiating New Project, Driving The Business Through International Platform.

By supplementing value to agricultural products, enhance the quality of life of farmers by leveraging biodiversity, scientific expertise, and core strategies projects to meet global consumers' needs.



Delivering on Integrity

“Ethics” Leads to “Goal.”

Our responsibility to all is rooted in our commitment to propriety and fairness, Let's forge ahead with confidence together!





Contents

05	Vision, Mission and Corporate Strategies
10	Key Financial Highlights
12	Awards and Recognitions
14	Milestones of 2018
16	Message from the Chairman

1

Business Highlights

20	Business Flowchart
22	Business Overview
23	Nature of Business and Performance
23	• Methyl Ester
24	• Fatty Alcohols
24	• Glycerine
25	• Fatty Alcohol Ethoxylates
26	Markets Overview and Trends
28	Management's Discussion and Analysis
37	Projects Progress
38	Risk Management and Risk Factors
45	Internal Control
49	Shareholding Structure in Subsidiaries and Affiliates
50	Connected Transactions
56	Shareholder Structure
56	Dividend Policy

2

Organization Structure

60	GGC Board of Directors
68	GGC Executives
74	Organization Structure
75	Management Structure

3

Corporate Governance

- 96 Corporate Governance
- 120 Personnel Management and Development Policy
- 123 Report of the Risk Management Committee
- 124 Report of the Nomination and Remuneration Committee
- 126 Report of the Corporate Governance and Sustainable Development Committee
- 128 Inventory Shortfall Incident

4

Sustainable Development

- 134 Sustainable Development
- 137 Safety, Occupational Health and Environment Management

5

Financial Statements

- 144 Report of the Audit Committee
- 148 Report of the Board of Directors' Responsibility for Financial Reports
- 149 Independent Auditor's Report
- 153 Statements of Financial Position
- 163 Notes to the Financial Statements
- 212 Audit Fee and Non-Audit Fee

Appendix

- 213 Company Information
- 215 Abbreviations and Glossary

"Investor may search for more detail of Company information in From 56-1 available at www.sec.or.th or Company website www.ggcplc.com"




To Download this Report:
<http://investor.ggcplc.com/ar.html>



VISION

To be a Leading Green Chemical Company
by Creating Sustainable Value

MISSION

- 
1. Customers: Innovate and provide excellent quality products and services for long term partnership.
 2. Shareholders: Maximize sustainable value for Shareholders with transparency and integrity.
 3. Employees: Create a work-life balance environment and high performance organization by investing in human resources.
 4. Society: Show responsibility and care for sustainable development of the environment and society.
 5. Green Flagship for GC Group.

OBJECTIVES AND GOALS

GGC systematically reviews its Vision, Mission, and Business Strategies annually in order to support the future Business trend and surrounding factors. For 2018–2027, GGC has its goal to become an Oleochemicals and Biochemicals Industry leader and to support the value added of agricultural products and enhance the wellbeing of farmers.

1. **Become a leading Oleochemicals Company in the Region**
Maintain leadership position in Methyl Ester and Fatty Alcohols business both in domestic and in the region, which includes the ability to continuously establish healthy EBITDA margin and growth opportunity in Oleochemicals Industry.
2. **Become a leading company in Biochemicals Business of GC Group**
GGC committed to become a global prominent player in Biochemicals Industry, dividing its business into three business groups: Biochemicals, Biofuel, and Bioplastics.
3. **Continuously pursuing operational excellences to improve profitability**
The Company committed to expand its business. GGC plans increase revenue growth through enhancing the current plant efficiency, expanding capacity with green-filled project, increasing market share and sales revenue, emphasizing on high value products, and developing new products.

Corporate Strategies



GGC's business directions and strategic plans focus on establishing and maintaining competitiveness, establishing sustainable growth in the biochemical business, and organizational development to support the future growth plans to achieve short-term and long-term goals. To this end, it has executed the following key strategies:



Strengthen business competitiveness

To maintain and grow its competitiveness from its current platform, GGC values productivity growth through 3 parts:

- **Operational excellence:** Process technique improvement, process control to improve process stability, along with maintaining the product standard.
- **Logistics and supply chain:** Supply chain management from feedstock delivery, warehouse management, and products delivery to the customers for maximum efficiency.
- **Feedstock and production plan:** Procurement of main and alternative feedstock by considering security of feedstock sourcing and feedstock delivery, feedstock quality and competitive prices.



Marketing excellence strategy

GGC's plan for maximum returns from sales and marketing activities through 3 parts:

- **Portfolio management:** Maintain its key-customer base to maintain market share, classify customer segment in market and develop new application for expansion in market varieties, so as to secure high profit.
- **Channel excellence:** Identify more international marketing and sales channels, focusing on countries with high growth, and forge brand awareness to maintain current customers while attracting new ones.
- **Sales force effectiveness:** Ensure that customers receive the best marketing and sales services both before and after sales.



Innovation strategy to be a solution provider

GGC values innovation creation and development since it is a crucial factor for enhancing sustainable business competitiveness under related activity divided into 2 parts:

- **Development of high-value products through Customer Solution Center (CSC):** CSC is the co-operation between GC and GGC, CSC serves as the clearinghouse for customers' problems, complaints, and needs—key information for development of high-value products that can efficiently meet their needs. In the long term, GGC will develop its efficiency to be a solution provider. By strengthening its current strength. After that, GGC will seek the third parties' co-operation including potential partnership evaluations for mutual developed organizations in the mid-term. Afterward, GGC will fully develop a research and development center which consists of experienced experts in R&D and Marketing including having appropriated facilities and encouraging external researchers to develop new explorations as double developments.
- **Value co-creation via key-account approach:** Create new-product development projects by covering 3 main group of Biochemicals product to meet key-customers' needs which are bioplastics, oleo specialties, and Home & Personal Care products (HPC).



Strategy for green growth projects

GGC values project implementation for biochemical growth under the following 3 key strategies:

- **Strengthen core business:** Investment to supplement the values of current by-products ,expand capacities to lower unit production costs.
- **Move toward oleo-specialties:** Joint development of ethoxylates markets and products with TEX (an affiliate) in extending TEX's products to Home and Personal Care products (HPC), in a move to enhance the security of sales channels and volumes of fatty alcohols. In addition, GGC intends to look into the feasibility study of extending oleochemicals specialties.
- **Establish bioplastics:** Review the viability of entering the bioplastics business through the extension of Biocomplex phase 2 (in the vicinity of phase 1), which has prepared infrastructure and feedstock procurement plans. This would lead to synergy benefit and mutual reliance of value chains, ranging from feedstock producers to various products. This move would enhance the attraction to investors and enhance sustainability for GGC's bioplastics business.



Capability buildup & sustainability strategy

GGC established guideline to increase its important capability to achieve business goal. To ensure its goal achievement, GGC has defined ways to enhance its overall capability:

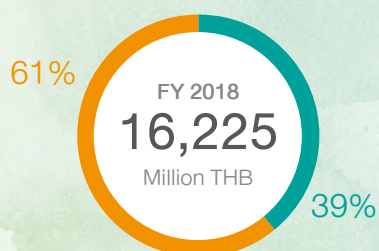
- **Enhancement of human capability:** GGC values human resource management and puts in place a human resource preparedness plan to accommodate the driving of the core business and investment in new ones for value addition. These tasks consisted of enhancing the organization structure and devising a human resources strategy for growth, which embraces recruitment of skillful, experienced people and capability development of current employees for greater skills, well-rounded ability, and educate in business ethics.
- **New products branding:** GGC's branding approach begins with the development of potential for product development, identification of product groups and target markets, pursuit of acceptance among producers, identification of business partners to jointly develop brands, to the pursuit of consumers' acceptance.
- **Trustworthy organization:** Striving to become a DJSI global role model of sustainability, GGC plans the three following moves:
 - Sustainable development: Strive for acceptance from stakeholders of its economic, social, and environmental responsibility in a balanced manner through the participation of all employees working toward sustainability. A roadmap was drawn up to prepare for applying for certification as a DJSI role model and secured endorsement of the Corporate Governance and Sustainable Development Committee at its Meeting No. 2/2018 of June 18, 2018.
 - Corporate Social Responsibility (CSR): Relentless CSR projects demonstrate GGC's comprehensive (economic, social, and environmental) responsibility. These projects take the form of activities and site visits to communities around its plants in Map Ta Phut and Ban Chang of Rayong, as well as other provinces where its plants are located. GGC, however, focuses on improving its CSR scope by making its projects more transparent, with better alignment of CSR work with the approach of sustainable development.
 - Public recognition: Reputation management and communication management are valued by GGC for their importance to its overall reputation, trust, and public recognition. To this end, GGC plans to implement quality communication in and outside the corporation; include corporate reputation in the plan to upgrade communication efficiency; and run relations-building activities with stakeholders and all branches of the public media in pursuit of wide recognition by the public and a better image.
- **Enhance enabler effectiveness:** GGC's successful execution of its strategic plans need three aspects of efficient support from internal units.
 - Financial strategy: GGC plans the following strategies in support of the strategic plan:
 - I. Capital sourcing for investment: Secure suitable capital sources for future investment by reviewing costs and suitability of the capital structure.
 - II. JV integration: This involves system formulation for finance and accounting data transmission and monitoring and analysis of the performance of invested projects.
 - III. Due diligence/valuation: This involves the establishment of standards, and conduct of due diligence/valuation of target businesses in support of growth under GGC's strategic plans.

- Procurement strategy: GGC values efficient procurement to acquire quality goods and services that are reasonably priced and delivered as needed under business ethics. Its business ethics code consists in fairness, transparency, and anti-corruption. GGC cooperates in a hiring and purchasing process through a service agreement with GC, which commands modern e-Sourcing, e-Auction, and e-Networking hiring and purchasing systems that are readily connected with business partners and are paperless; GC also holds high bargaining power for GGC's maximum interests.
- Information technology strategy: GGC has introduced modern digital technology tools to its work, management, and administrative processes to accommodate growth and international business expansion, including ERP (Enterprise Resource Planning) in support of its business operations for customer intimacy, operational excellence, and corporate functions efficiency. Finally, it has set up technology infrastructure for new projects located outside its site in support of efficient operation.

Key Financial Highlights

Sales Revenue

(Unit: Million THB)

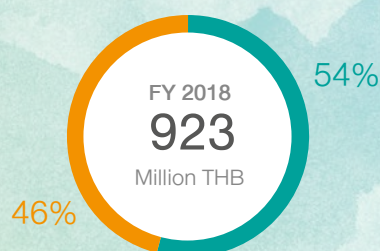


● Methyl Ester

● Fatty Alcohols

EBITDA⁽¹⁾

(Unit: Million THB)



Net Profit

FY 2017



0.56

FY 2018



(1.13)

● Net Profit
(Million THB)

● Earning per Share
(THB / Share)

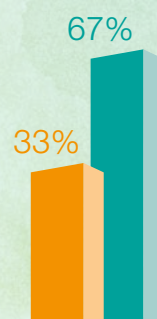
● Net profit before extraordinary item⁽³⁾
(Million THB)

Adjusted EBITDA⁽²⁾

Breakdown by Business Group

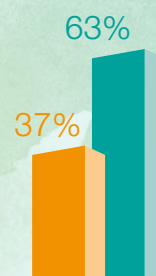
(Unit: Million THB)

FY 2017



1,802

FY 2018



1,386

● Methyl Ester

● Fatty Alcohols

Statement of Financial Position (Unit : Million THB)		FY 2016	FY 2017	FY 2018
Total Assets		11,631	14,535	13,084
Cash, Cash-Equivalent and Short-Term Investment		528	4,122	3,787
Other Current Assets		6,118	4,840	2,927
Land, Plants & Equipment		4,166	4,705	5,103
Other Non-Current Assets		819	868	1,267
Total Liabilities		3,708	3,462	3,376
Interest-Bearing Debts		2,629	2,400	2,120
Other Liabilities		1,079	1,062	1,256
Total Equity		7,923	11,073	9,708

Financial ratios		FY 2017	FY 2018
Current Ratio (times)		6.9	4.4
EBITDA to Sales Revenue (%)		5.8	5.7
Net Profit to Sales Revenue (%)		2.7	(7.2)
Return on Total Assets (%)		4.7	(10.5)
Return on Equity (%)		5.5	(11.2)
Debt to Equity (times)		0.3	0.3
Interest-Bearing Debt to Equity (times)		0.2	0.2
Interest-Bearing Debt to EBITDA (times)		2.1	2.3

Dividend Paid (THB/Share)		Dividend Payout Ratio (%)
Year	Full Year	(%)
2016 ⁽⁴⁾	1.70	134
2017 ⁽⁵⁾	0.35	69
2018 ⁽⁶⁾	-	-

Note :

- (1) EBITDA refers to earnings before Interest, tax, depreciation, and amortization.
- (2) Adjusted EBITDA refers to EBITDA excluding impact of inventory of Stock Gain/Loss and NRV.
- (3) Net profit before extraordinary item came from the expense from raw materials derogation and tax income from deferred tax assets.
- (4) The dividend paid in 2016 was the case prior listed in the Stock Exchange of Thailand.
- (5) The Board of Directors at its meeting No 2/2018 held on February 14, 2018 has approved the proposal to propose at the 2018 Annual General Meeting of Shareholders to consider and approve on the dividend payment for year 2017 operating performance of THB 0.35 per share or 69% of the net profit, of which THB 0.15 per share was paid as an interim dividend on September 7, 2017. The final dividend payment for year 2017 (July – December 2017) was paid of THB 0.20 per share on April 25, 2017.
- (6) The Board of Directors at its meeting No 3/2019 held on February 18, 2019 has approved the proposal to propose at the 2019 Annual General Meeting of Shareholders to consider and approve on the omission of the dividend payment for year 2018, because the company has retained loss as stated in separated financial statements as of 31st December, 2018 due to the issue about procurement process of raw materials.

Awards and Recognitions

The awards and certifications received by the Company in 2018, regarded as the pride of employee at every levels that are dedicated to perform their duties to the fullest with the ability to gain confidence and acceptance from leading organization as follows:



Outstanding National Operator (Safety, Occupational Health, and Work Environment), Diamond Level

Presented by the Department
of Labor Protection and Welfare,
Ministry of Labour



3Rs Award, Zero Waste to Landfill Achievement Award and Good Economic Returns Award (3Rs+ Award)

Presented by the Department of Industrial Works



Carbon Footprint Reduction Certificate

Presented by Thailand Greenhouse
Gas Management Organization
(Public Organization) (TGO)



Outstanding Halal Premises Award, Rayong

Presented by the Office of the
Islamic Committee in Rayong

All these awards
represents GGC's earnest
aspiration to do business with
"Professional, Green,
and Sustainability".

ECO Factory Award

Presented by the Ministry of Digital
Economy and Society, Ministry of industry,
and the Federation of Thai Industries



CSR-DIW Continuous Award

Presented by the Department
of Industrial Works



Sustainability Report Award, Recognition Level

Presented by the CSR Club of Thai Listed
Companies Association (TLCA), the Securities
and Exchange Commission (SEC), Stock Exchange
of Thailand (SET), and Thaipat Institute.



Certificate of Membership of the
Thailand's Private Sector Collective
Action Coalition against Corruption
(CAC)



2018 Annual General Meeting
Organizing Quality Assessment of
Thai Investors Association (TIA)
with a 100% satisfaction score



Corporate Governance Report -Excellent
in the assessment of corporate governance
quality of Thai listed companies. This
annual assessment was undertaken by
Institute of Directors

Milestones of 2018

January 9, 2018

MOU signing of a research collaboration project on the direction and innovation technology of chemical and engineering catalysts for biodiesel, ethanol, and industries using catalysts for sustainable industrial development

GGC collaborated on R&D with Chulalongkorn University and the Thailand Research Fund to gain access to findings of catalyst research as a whole, including the outlook for biodiesel applications, for instance, high value-added biodiesel-based products, basic knowledge of reactors and catalyst molding, test results and analysis of existing catalysts, all of which would benefit GGC's future product development.



MOU signing of collaboration agreement in Biocomplex investment for bioeconomy development in Nakhon Sawan

February 6, 2018

With Kaset Thai International Sugar Corporation Public Company Limited (KTIS), GGC participated in a feasibility study for the construction of the Nakhon Sawan Biocomplex (NBC), located in an area of more than 2,000 rai, Amphoe Ta Khli, Nakhon Sawan. The development consists of two phases. The first will integrate biochemical industries, comprising an Ethanol plant, biomass power plant, public utilities, and infrastructure to support common processes' operation of infrastructure project for the second phase. Biocomplex phase 2 includes biochemicals, bioplastics industries.

February 19, 2018

Media visit to Methyl Ester Plant 2

Energy, industry, and economic news reporters visited Methyl Ester Plant 2 in the Thai Eastern Industrial Zone in Chon Buri, which is modern methyl ester plants. Equipped with layer esterification technology, catalyst recovery technology, distillation purification technology, and steam generator technology, it will produce maximum-quality and minimum-cost methyl ester, a basic component of biodiesel. Commercial operation is expected by the first quarter of 2019.

April 19, 2018

Collaboration with Thai Biodiesel Producer Association for B10 preparedness

As a member of the Thai Biodiesel Producer Association, GGC joined a press conference on the readiness to support consumption of B10 and urged the government to urgently enforce its B10 policy. The blending ratio of biodiesel should be complied with so as to be an alternative solution to solve palm oil oversupply stocks. This would help drive the economy as a whole.

May 7, 2018

Submission of progress report to United Nations Global Compact

GGC had joined the United Nations Global Compact (UNGC) since July 2017 to declare its responsibility for the economy, society, and environment. Members are obliged to submit a Communication on Progress (COP) describing their implementation of 10 Principles of UNGC for business sustainability.

June 29, 2018

Clarification to SET about the problem found in GGC's feedstock procurement and product sales processes

GGC informed SET of the inventory shortfall incident. GGC has recently found certain facts indicating that as at 31 May 2018 the quantity of raw materials in the information system of the Company for which the full payment has been made, is significantly different from the actual quantity of raw materials at the storage facilities of the suppliers. The inspection and findings of this issue is a consequence from the fact that due to the high level of inventory the Board of Directors had a policy that the Management control the level of inventory and ensure that it be at an appropriate level in order to mitigate impact from the raw material price volatility and assigned the Risk Management Committee to monitor closely on this matter. After found those facts, an independent investigation committee has been appointed promptly by the Board of Directors for in-depth investigation.

July 2018 :

Construction of Methyl Ester Plant 2

The Methyl Ester Plant 2 was constructed at Thai Eastern Industrial Land, Nongyai District. The Construction was complete in July 2018. The Methyl Ester Plant 2, currently, is in process of machinery test run.

Signing of research collaboration project on cellulosic technology

Together with Kaset Thai International Sugar Corporation Public Company Limited (KTIS), GGC participated in the signing of a research collaboration agreement with Chempolis Limited, the owner of cellulosic technology from Finland, to study the use of the technology in producing environmentally friendly and value-added products from bagasse in the extension of Nakhon Sawan Biocomplex (NBC) Phase 2. Chempolis is the developer of the cellulosic technology, which converts bagasse into sugar and high-value substances such as furfural acetic acid and lignin. GGC was keen on such investigation to develop future projects.

August 22, 2018



December 18, 2018

Establishing GGC Biochemicals Company Limited

Wholly owned subsidiary GGC Biochemicals Company Limited (GGC Bio) was registered as a holding company to engage and invest in bio-chemical industry.





Message from the Chairman

“

We are truly confident that every change always brings a better opportunity, GGC, therefore, volunteer ourselves to be a formidable force in driving Thailand green chemicals business to International level.

”



(Mr. Supattanapong Punmeechaow)

Chairman

Dear Shareholders,

This year contained an unfortunate event regarding inventory shortfall incident posing some obstacles to our performance. Despite of the difficulty we faced, we remain determined **“to be a leading green chemical company by creating sustainable value”**. Everyone from management to employee have been working hand in hand to overcome the issues. Led by the Board of Directors, the Fact-Finding Taskforce was appointed to independently investigate the root causes of the inventory issues, then considerably determined proper legal actions and executed disciplinary action against the offenders and the relevant employees, respectively. Furthermore, GGC engaged the experts to assess the internal control system, taking their suggestions to improve the system and implement preventive measures for issues recurrence. To this end, we improved raw material procurement process inventory management, SAP utilization and Whistleblower Policy. All of the aforementioned actions have been taken in assuring all Stakeholders that GGC still remain its position as a leading company and committed to deliver the sustainable prosperity to them.

Gearing towards the company growth

Amid external factors, including world economic volatility and natural phenomena, GGC brainstormed and forged creative framework to handle them in assuring our business will be smoothly and efficiently conducted. For the future growth, we follow our core strategies which embrace all aspects includes **Green Growth Projects Execution**; to maintain its leading position in Palm Base Biofuel, GGC invested in the second Methyl Ester plant. The construction of the project has been completed and had its first drop delivered in Q4 2018. GGC proudly says that this is another remarkable step to support the country B20 policy and our product can help to reduce dust pollution, which is a major

problem in the country today. In addition, GGC established GGC Biochemical Co., Ltd. To conduct and invest in Downstream project , Biofuel and Bio-chemical and its derivatives products through the Nakhon Sawan Biocomplex Project. The project is currently under the details feasibility study phase and close to final investment decision. As for **Innovation**, we together with a leading business partner has studied the possibility of introducing Cellulosic Technology in the production of extended products of bagasse to further enhance the value from the Nakhon Sawan Biocomplex phase 2.

A key supporter to the Government policy

GGC plays important roles in the Bioeconomy development project, one of the key government policy with several approvals of privileges and incentives under the Bioeconomy. In conjunction with GGC aforementioned business plan, GGC will be able to fully assume green leadership that adheres to the principles of sustainable development under the principles of good corporate governance in order to create the balance among economy, society, environment and deliver the maximum benefits to all stakeholders concerned.

The power of sustainable development

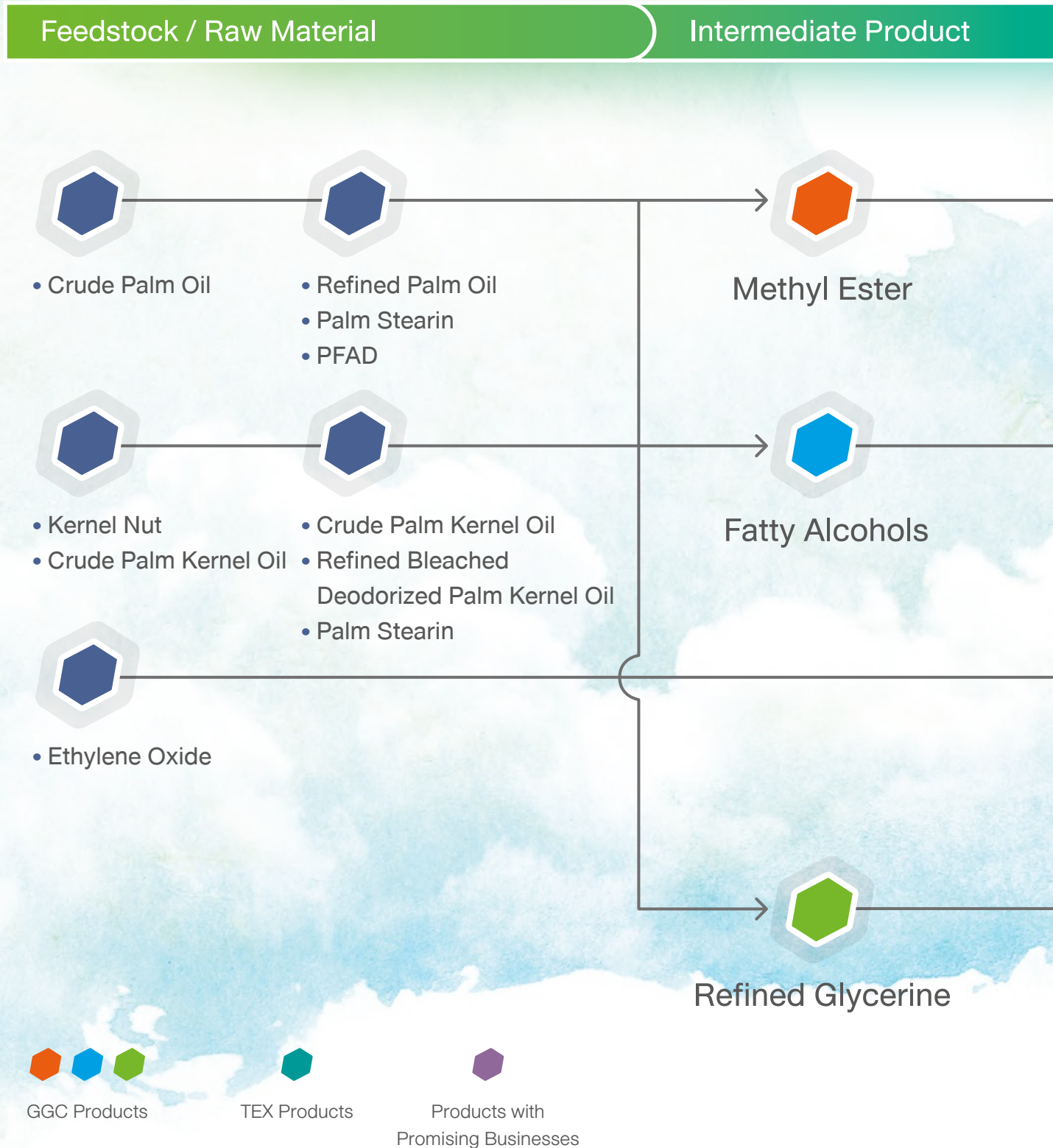
We are truly confident that every change always brings a better opportunity, GGC, therefore, volunteer ourselves to be a formidable force in driving Thailand green chemicals business to International level. Behind our efforts are the shareholders, investors, public and private sectors, communities, society, and all stakeholders—our key impetus. On behalf of the Board of Directors, Management, and all GGC employees, may I express our heartfelt gratitude for your support and hope to receive such support continuously.



Business Highlights

1

Business Flowchart

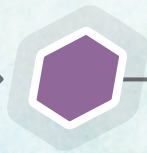


Downstream Product

Industry



- Automotive Fuel



Specialty Oleochemicals



- Personal Care Products



Fatty Alcohol Ethoxylates



- Pharmaceutical
- Personal Care Products

Business Overview



Global Green Chemicals Plc. (GGC) is a producer of green chemicals, notably Methyl Ester, Fatty Alcohols, Refined Glycerine, and Fatty Alcohol Ethoxylates of the Ethylene Oxide product group.

Methyl Ester (“B100”) is a blending agent in high-speed diesel for domestic retail trading. In 2018 GGC shared 27% of the total Methyl Ester sold to domestic producers and blenders of high-speed diesel, according to the Department of Energy Business for blending Methyl Ester with high-speed diesel to sell biodiesel at service stations. The company has a total installed Methyl Ester capacity from Plant 1 and Plant 2 of 500,000 TPA from RBD palm oil feedstock.

GGC is the sole producer of Fatty Alcohols in Thailand with an installed capacity of 100,000 TPA. The products are key ingredients for surfactants, cosmetics and other pharmaceutical industries.

In addition, GGC produces Refined Glycerine, an ingredient widely used in cosmetics and pharmaceutical industries, and other by-products such as Crude Glycerine, Yellow Glycerine,

Potassium Sulfate, Methyl Ester Residues, and Fatty Alcohols Residues. GGC has an installed Glycerine capacity of 31,000 TPA.

GGC and Thai Fatty Alcohols Co., Ltd. (TFA) produce Methyl Ester, Fatty Alcohols, and Refined Glycerine whereas Thai Ethoxylate Co., Ltd. (TEX) is the sole producer of Fatty Alcohol Ethoxylates in Thailand. Derived from Ethylene Oxide (EO) and Fatty Alcohols, Fatty Alcohol Ethoxylates form key ingredients of home and personal care products, including shampoos, liquid soap, detergents, dishwashing solutions, and cleaning agents. TEX is a major customer of GGC for Fatty Alcohols with an installed Fatty Alcohol Ethoxylates capacity of 124,000 TPA.

TEX is a 50:50 joint venture between GGC and BASF (Thai).

GGC also holds 30% shares in Thai Eastern Top Seeds Oil Co., Ltd. (TETSO), a joint venture with Eastern Palm Oil Co., Ltd. for the palm kernel oil pressing business. Commercial operation started in 2018 with an installed palm kernel oil capacity of 90,000 TPA.

Nature of Business and Performance

Revenue Structure

Income is generated from selling goods consisting of Methyl Ester, Fatty Alcohols, and Refined Glycerine, as well as byproducts including Crude Glycerine, Yellow Glycerine, Potassium Sulfate, Methyl Ester Residues, and Fatty Alcohols Residues and, from selling raw materials in some periods, mainly Crude Palm Oil.

Revenue generated from individual products each year is described below:

For year ended December 31

Year	2016		2017		2018	
	Revenue from Product Sales	% of Total Revenue	Revenue from Product Sales	% of Total Revenue	Revenue from Product Sales	% of Total Revenue
Product	(Million THB, except percentage ratio)					
Methyl Ester	10,257.0	59.6%	9,825.6	50.5%	8,594.5	53.0%
Fatty Alcohols	5,640.5	32.8%	6,792.6	34.9%	5,686.6	35.0%
Refined Glycerine	560.5	3.3%	881.0	4.5%	1,048.2	6.5%
Others ⁽¹⁾	742.1	4.3%	1,973.1	10.1%	895.3	5.5%
Total	17,200.1	100.0%	19,472.3	100.0%	16,224.6	100%

⁽¹⁾ Mainly included Crude Glycerine, Yellow Glycerine, Potassium Sulfate, Methyl Ester Residues, and Fatty Alcohols Residues and income from sales of raw materials.

Methyl Ester

Nature of Product

Methyl Ester (B100) is a range of environmentally friendly basic oleochemicals used as a blending agent in high-speed diesel fuel with the so-called biodiesel that meets the European standard (EN14214). Methyl Ester enhances diesel fuel performance by not only lubricating but also promoting efficient combustion, resulting in extended engine life. It also reduces pollution or environmental impacts.

Policy and Nature of Markets

Methyl Ester is sold to those who produce and blend high-speed diesel. Most of these are all domestic customers. Sales agreements are signed between GGC and customers for specified periods.

Product Procurement

Palm oil is a main raw material for Methyl Ester. The company mainly procures local palm oil to promote domestic agriculture and downstream industry.



GGC owns a commercially operated factory with an installed Methyl Ester Plant 1 nameplate capacity of 300,000 TPA, and Methyl Ester Plant 2 is under testing for commercial operation with nameplate capacity of 200,000 TPA.

Fatty Alcohols

Nature of Product

Fatty Alcohols are environmentally friendly basic oleochemicals leading up to the personal care industry. They are key ingredients of several industries, including surfactants, plasticizers, solvents, fragrances, cleaning agents, foam stabilizers, lubricants, intermediate substances that reduce electrostatic effect in the textile industry, cosmetics ingredients, colorant compounds, leather coating agents, and ink.

Policy and Nature of Markets

Thai Fatty Alcohols Co., Ltd. (TFA) sells Fatty Alcohols to Thai Ethoxylate Co., Ltd., key domestic customers, and to overseas customers including Asia, Europe, South Africa and South America. The major customers are those of product manufacturers, oleochemicals producers, as well as traders and distributors.

Product Procurement

Crude palm kernel oil is a main raw material for Fatty Alcohols of GGC and TFA. The Company mainly procures local palm oil to promote domestic agriculture and downstream industries. In certain periods, GGC and TFA have to import crude palm kernel oil or refined coconut oil from Malaysia and Indonesia. However, procurement priority is given to local raw materials.



GGC owns a commercially operated factory with an installed Fatty Alcohols nameplate capacity of 100,000 TPA.

Glycerine

Nature of Product

A by-product of Methyl Ester and Fatty Alcohols, Glycerine is used in pharmaceutical, food, and personal care product industries.

Policy and Nature of Markets

GGC sells refined Glycerine to health and personal care product manufacturers and suppliers, both local and overseas, mainly through distributors. GGC also signed sales agreements with local and international medical suppliers (Multinational Corporation: MNC) and personal care manufacturers, and major pharmaceutical manufacturers in South Asia. Epichlorohydrine manufacturers also purchase Glycerine directly from GGC.

Product Procurement

Glycerine is a by-product of Methyl Ester and Fatty Alcohols.



GGC owns a commercially operated factory with an installed Glycerine nameplate capacity of 31,000 TPA.

Fatty Alcohol Ethoxylates

Nature of Product

Fatty Alcohol Ethoxylates are sold through Thai Ethoxylates Company Limited (TEX). Derived from Ethylene Oxide (EO) and Fatty Alcohols, they are key ingredients of personal and home care products, including shampoos, dishwashing solutions, and cleaning agents. In addition, Fatty Alcohol Ethoxylates find application in textile manufacturing as a scouring and softening agent in the final process of fiber preparation.

Policy and Nature of Markets

TEX plans to maintain and raise the domestic market share of Fatty Alcohol Ethoxylates while exporting mainly to Southeast Asia, where personal and home care product manufacturing bases are located. Nevertheless, TEX expands its markets to other regions with healthy returns, including South Asia, the Middle East, and Africa.

Product Procurement

Fatty Alcohols and Ethylene Oxide are basic raw materials for Fatty Alcohol Ethoxylates. TEX receives Fatty Alcohols sent to its factory through pipeline from TFA's factory and partly imports, but purchases Ethylene Oxide from GC Glycol Co., Ltd., a subsidiary of GC Group, under a long-term sales agreement.



TEX owns a commercially operated factory with an installed Fatty Alcohol Ethoxylates nameplate capacity of 124,000 TPA.

Markets Overview and Trends



Methyl Ester

2018 Market Overview

The Methyl Ester markets in 2018 improved from previous year due to the enforcement of the government's B7 policy for the whole year as well as its measures to stimulate biodiesel usage to absorb the domestic stock of palm oil. For instance, the government has encouraged the usage of B20 to fleet trucks and agricultural machineries from July 2, 2018. On November 5, 2018, the minimum Biodiesel blending was increased from 6.5% to 6.8%, resulting in Methyl Ester demand rising to 1.38 million tons, 0.15 million tons or a 12% increase, while its price dropped due to crude palm oil price weakening to THB 27,914 per ton, decreased by THB 5,333 or 16%.

2019 Market Trends

In 2019, Methyl Ester demand is expected to improve because the government has continuously enforced many policies to increase biodiesel usage since previous year; for instance, enforcing its B10 policy, pushing on the usage of B20 in public transportation and more encouraging public to use B20 by increasing price subsidies on B20 from 3 THB/liter to 5 THB/liter during December 1, 2018 to February 28, 2019. Nevertheless, the entry of new competitors and expanding capacity of manufacturers will impact on highly competitive Methyl Ester market.



Fatty Alcohols

2018 Market Overview

The Fatty Alcohols market in 2018 was an improvement from the previous year since natural Fatty Alcohols were more advantageous in term of cost than synthetic Fatty Alcohols and rising awareness in natural products. In addition, tight supply was caused by temporarily shut down plants in China because of the implementation of more strictly safety control and environmental regulations. The key Fatty Alcohols producers in Europe and Asia faced the accident in production process and Indian manufactures are unable to produce Fatty Alcohols at competitive prices since government has raised import tariff of crude palm oil, from 30% to 44% and that of refined palm oil from 40% to 54%. Besides, the average price of natural Fatty Alcohols dropped to USD 1,568 per ton, USD 408 per ton or a 21% decrease, following the Palm Kernel Oil Price.

2019 Market Trends

The market for natural Fatty Alcohols in 2019 can be expected to grow because its price is relatively competitive compared to synthetic Fatty Alcohols and continually tight supply since previous year, resulting to constant purchase from several regions.



Glycerine

2018 Market Overview

The Refined Glycerine market in 2018 improved from previous year since Oleochemicals plants worldwide lowered their capacity, resulting to more attractive price. In addition, there were more strictly safety control and environmental regulations in China, resulting in temporarily shut down plants. The average price of Refined Glycerine climbed to USD 831 per ton, increased by USD 10 per ton or 1% following tight supply.

2019 Market Trends

In 2019, the domestic Refined Glycerine markets will be more intensely competitive, as domestic Biodiesel markets expand, resulting in more Refined Glycerine from production process. International markets will also be highly competitive since Malaysia government has announced to increase Biodiesel blending from B7 to B10 from December 1, 2018 onwards and Indonesia will also increase Biodiesel mandate from B20 to B25 to absorb palm oil surplus in 2019.



Fatty Alcohol Ethoxylates

2018 Market Overview

As a whole, in 2018, Fatty Alcohol Ethoxylates continuously grew 5–6% as a result of industrial expansion in personal care and home care products in Southeast Asia, South Asia, and the Middle East, albeit external factor impacts such as severe currency fluctuations especially the depreciation of Asian currency to the US dollar affecting countries' imports and exports in the second half of 2018, unstable price of natural fatty alcohols which is a major feedstock affecting directly to cost of goods, and the challenges of market decelerating in South East Asia due to Indian tax restructuring.

2019 Market Trends

In 2019, growth of Fatty Alcohol Ethoxylates markets can be expected no less than the average rate of the target market. For instance, customers in South East Asia in personal care and home care industries are projected to grow averagely 5–6% and the domestic on emerging market are projected to grow 6–7% despite the challenges from external factors. For example, the difficulty assessments of future market prices due to continuity and high volatility in cost of goods. These could lead to a drastic competition compared to 2018. Furthermore, increasing of new manufacturers in Indonesia would lead to the volume expansion and more market shares needed as well.



Management's Discussion and Analysis

Executive Summary

In 2018, palm oil production and crude palm oil (CPO) inventory have remained high in both domestic and international market, which resulted in the decreasing price of crude palm oil and crude palm kernel oil (CPKO) comparing with previous year. Under these circumstances, the Thai government has maintained biodiesel mandate at B7 for whole year. In addition, the government has announced the various measurements to stimulate domestic palm oil consumption; for example, lifting up the minimum blending of B7 from 6.5% to 6.8% since November 5, 2018, promoting the use of B20 in public buses, and fleet trucks by price subsidies on B20 to be lower than B7 by 3 THB/liter through State Oil Fund, more encouraging public to use B20 by increasing price subsidies on B20 from 3 THB/liter to 5 THB/liter during December 1, 2018 to February 28, 2019, and cooperating with EGAT to apply 160,000 tons of CPO for power generation by purchasing CPO at 18 THB/kg during November 2018 to February 2019. For Fatty Alcohols market, natural Fatty Alcohols was being more competitive than synthetic Fatty Alcohols due to its price attractiveness as CPKO price which is the feedstocks to produce natural Fatty Alcohols declined. In the meantime, supply from both natural Fatty Alcohols and synthetic Fatty Alcohols were impacted by temporarily shut down of some Chinese producers because their government has implemented more stringent on safety and environmental regulations. Also, Indian producers could not produce natural Fatty Alcohols at competitive price because the government has raised import tax of palm oil. Lastly, some Fatty Alcohols producers have unplanned shutdown plant. From these factors, demand for natural Fatty Alcohols has improved from previous year.

Due to the aforementioned situation, the Global Green Chemical Public Limited ("GGC" or "the company") operated at a full capacity, which resulted to Methyl Ester sales volume in FY2018 of 374,922 tons, whereby increased from Methyl Ester sales volume in FY2017 of 344,173 tons, or rose by 9%. While Fatty Alcohols in FY2018 was sold at 114,784 tons, increased by 3,632 tons or 3% from FY2017. However, the company reported sales revenue amounting to THB 16,225 million, declined from FY2017 by 17% because Methyl Ester price and Fatty Alcohols price dropped following the decreasing of CPO price and CPKO price respectively. Also, the company reported EBITDA of THB 923 million, which was lower than previous year by 19% mainly due to the lower profitability of Fatty Alcohols from lower of feedstock price discount, and additional advisors expense for the raw materials procurement process issue. Nevertheless, the company was able to realized net profit excluding extraordinary item for FY2018 of THB 487 million, decreased by 7% from previous year as a result of the lower expenses which including depreciation, financial expenses, FX and derivative loss and the higher profit from investments in associate and joint venture.

However, as the company has disclosed the issue about the procurement process of raw materials to The Stock Exchange of Thailand in Q2/2018, the company realized the expense from raw materials derogation amounting to THB 2,004 million. But, the company has also realized tax income amounting to THB 356 million which was mainly from such expense. Thereby, the company had net loss of THB 1,161 million in FY2018.

As of 31 December 2018, the company has total assets of THB 13,084 million which comprised of cash and short-term investment amounted to THB 3,787 million; with total liabilities of THB 3,376 million; and total equities of THB 9,708 million. In this regard, the company financial position remains strong with low debt-to-equity ratio and high current ratio.

In addition, as of 31 January 2019, the company has reached the agreements with some of the suppliers to compensate for the raw materials derogation issue by entering into settlement agreements which requires suppliers to deliver the pending quantity of raw material under the period specified in the agreements.

Operating Performance

Figure 1: Consolidated Company's Performance

		Unit: Million THB		
Consolidated Performance		FY 2018	FY 2017	% YoY
Sales Revenue		16,225	19,472	-17%
EBITDA		923	1,138	-19%
EBITDA Margin (%)		5.7%	5.8%	-0.1%
Stock Gain/(Loss) & NRV		-463	-664	-30%
Adjusted EBITDA ⁽¹⁾		1,386	1,802	-23%
Adjusted EBITDA Margin (%)		8.5%	9.3%	-0.8%
Net Profit		487	521	-7%
Extra Items		-1,648 ⁽²⁾	-	n/a
Net Profit		-1,161	521	-323%
EPS (THB/share)		-1.13	0.56	-302%

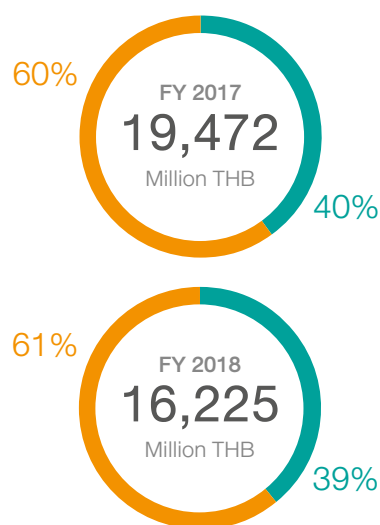
Remark:

(1) Adjusted EBITDA refers to EBITDA excluding impact of Stock Gain/(Loss) and NRV.

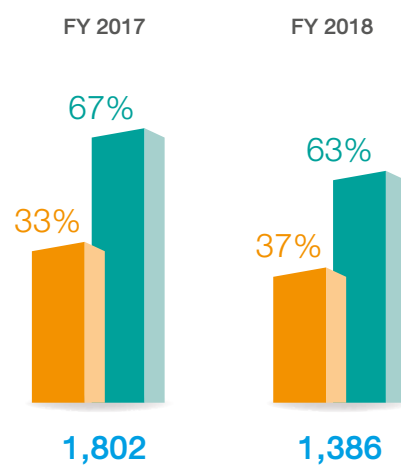
(2) Extra items were expenses from raw materials derogation amounting to THB 2,004 million net of tax income from deferred tax assets amounting to THB 356 million.

Exhibit 1: Sales Revenue and Adjusted EBITDA Breakdown by Business Unit Comparison of FY2018 vs. FY2017 (Unit : Million THB)

Sales Revenue Breakdown



Adjusted EBITDA Breakdown



● Methyl Ester ● Fatty Alcohols

Market Overview by Business

Methyl Ester (Biodiesel)

Figure 2: Product and Feedstock Prices

Average Price	FY 2018	FY 2017	% YoY
Methyl Ester (B100) (THB/liter) ⁽¹⁾	24.15	28.76	-16%
Methyl Ester (B100) (THB/kg) ⁽²⁾	27.91	33.25	-16%
Crude Palm Oil (CPO) (THB/kg) ⁽³⁾	19.57	24.88	-21%
EPPO P2F (THB/kg) ⁽⁴⁾	5.19	4.96	5%
Biodiesel Mandate	B7	B5, B7	

Remark:

(1) Reference Price of EPPO

(2) Conversion Ratio: 0.865 Tons = 1,000 Liters

(3) Reference Price of DIT

(4) Market ME Price - Mixed Feedstock according to EPPO's B100 formula

An average of the FY2018 CPO (CPO-DIT) price was at 19.57 THB/kg, being lower than FY2017 CPO price by 5.31 THB/kg or 21%, because of a decrease in crude palm oil price, resulted from the higher domestic palm oil inventory at level of 420,000 tons. While in the past, an average Thailand palm oil inventory was at level of 200,000 tons to 250,000 tons. On the demand side, Methyl Ester demand in FY2018 improved to 1.38 million tons, increased from previous year by 0.15 million tons or 12%, since it was affected by the announcement of biodiesel mandate to be B7 for whole year and the stimulus measurement in order to maintain price equilibrium of domestic CPO price while in 2017, B5 was mandated during January 1 to May 7, and B7 was mandated for the rest of the year. In addition, the demand growth was driven by the government measures to increase domestic crude palm oil consumption; for instance, increasing of the minimum biodiesel mandate from 6.5% to

6.8% from November 5, 2018 onwards; promoting the use of B20 in public buses and fleet trucks by price subsidies on B20 to be lower than B7 by 3 THB/liter through State Oil Fund, more encouraging public to use B20 by increasing price subsidies on B20 from 3 THB/liter to 5 THB/liter during December 1, 2018 to February 28, 2019 and cooperating with EGAT to apply 160,000 tons of CPO for power generation by purchasing CPO at 18 THB/kg during November 2018 to February 2019. As CPO price dropped in FY2018, Methyl Ester price was down to 27.91 THB/kg, decreased by 5.34 THB/kg or 16%.

In FY2018, the average EPPO P2F (the difference between EPPO ME price and mixed feedstock prices) was at 5.19 THB/kg, increased by 5% from 4.96 THB/kg in the previous year due to higher methanol price as it was a factor in EPPO price formula.

Fatty Alcohols

Figure 3: Products and Feedstocks' Prices

Unit: USD per ton			
Average Price	FY 2018	FY 2017	% YoY
Fatty Alcohols ⁽¹⁾			
- Short Chain	3,705	3,363	10%
- Mid Cut	1,445	2,074	-30%
- Long Chain	1,251	1,401	-11%
Average Fatty Alcohols ⁽²⁾	1,568	1,975	-21%
Crude Palm Kernel Oil (CPKO) ⁽³⁾	914	1,244	-27%
Market P2F of Fatty Alcohols	471	483	-2%

Remark:

(1) Reference Price of ICIS

(2) Average price of Fatty Alcohols with production proportion: Short Chain 8% Mid Cut 62% and Long Chain 30%

(3) Reference Price of Malaysian Palm Oil Board (MPOB)

CPKO (MPOB) price in FY2018 was at 914 USD/ton, dropped from FY2017 by 330 USD/ton or 27%. The primary cause was that palm oil production flooded into market which led to high level of global palm oil inventory, especially in Malaysia who has CPO inventory of 3.2 million tons at the end of FY2018 which was the all-time high. In contrast, the market demand was diminished as some countries have raised palm oil import duties to protect their agriculture industries and consumer health concern trend has been growing. Also, there were the coconut oil flooded into the market, resulted into the price pressure on CPKO.

In FY2018, demand for natural Fatty Alcohols improved from FY2017, mainly resulting from more attractive natural Fatty Alcohols price than synthetic Fatty Alcohols as CPKO price falling. In the meantime, supply was impacted by

temporarily shut down of some Chinese producers due to implementation of the more strict safety control and the more stringent environmental regulations by its government. Also, Indian producers could not produce natural Fatty Alcohols at competitive price because the government has raised import tax of palm oil. Finally, some Fatty Alcohols producers had unplanned shutdown pushing pressure on market demand.

The average market P2F of natural Fatty Alcohols in FY2018, compared to FY2017, was at 471 USD/ton, decreased by 2% which was close to previous year.

Operating Performance by Business Unit

Methyl Ester (ME) Business Unit Operating Performance

Figure 4: Keys Operating Performance of ME Business Unit

	FY 2018	FY 2017	% YoY
Utilization (%) ⁽¹⁾	113%	101%	12%
Sales Volume (ton) ⁽²⁾	374,922	344,173	9%
Sales Volume (million liter) ⁽³⁾	433	398	9%
Sales Revenue (million THB)	9,913	11,659	-15%
EBITDA (million THB)	429	382	12%
EBITDA Margin (%)	4.3%	3.3%	1.0%
Stock Gain/(Loss) & NRV (million THB)	-80	-206	-61%
Adjusted EBITDA (million THB) ⁽⁴⁾	509	588	-13%
Adjusted EBITDA Margin (%)	5.1%	5.0%	0.1%

Remark:

(1) Nameplate Capacity 300,000 tons per year

(2) In 4Q2018, GGC had sales volume from Methyl Ester plant 2 of 7,109 tons. However, the company could only realize the total sales volume from Methyl Ester plant 1 because Methyl Ester plant 2 is under testing run for commercial operation.

(3) Conversion ratio: 0.865 Tons = 1,000 Liters

(4) Adjusted EBITDA refers to EBITDA excluding impact of Stock Gain/(Loss) and NRV

For FY2018, the revenue of ME Business unit was recorded at THB 9,913 million, declined from FY2017 by 15% due to lower price of Methyl Ester following CPO price softness, though the company had the higher Methyl Ester sales volume than previous year by 9%, due to B7 mandated for the whole year of 2018, whereas B5 and B7 mandated in FY2017 and encouraging biodiesel consumption

by government stimulus measurements. However, the company recognized less Stock Loss & NRV than FY2017 by THB 126 million or 61%, resulting in the company's EBITDA of THB 429 million, rose by 12%. In contrast, the company recorded Adjusted EBITDA of THB 509 million, declined by 13% from previous year.

Fatty Alcohol (FA) Business Unit Operating Performance

Figure 5: Keys Operating Performance of FA Business Unit

	FY 2018	FY 2017	% YoY
Utilization (%)	115%	112%	3%
Sales Volume (Ton)	114,784	111,152	3%
Revenue from Sales (million THB)	6,312	7,813	-19%
EBITDA (million THB)	494	755	-35%
EBITDA Margin(%)	7.8%	9.7%	-1.9%
Stock Gain/(Loss) & NRV	-383	-458	-16%
Adjusted EBITDA (million THB) ⁽¹⁾	877	1,213	-28%
Adjusted EBITDA Margin (%)	13.9%	15.5%	-1.6%

Remark :

(1) Adjusted EBITDA refers to EBITDA excluding impact of Stock Gain/(Loss) and NRV

FY2018, the revenue of FA Business unit was recorded at THB 6,312 million, decreased from previous year by 19%, mainly due to lower price of natural Fatty Alcohols following CPKO price softness and decreasing of trading and by-product revenue, though the company realized sales volume of 114,784 tons, increased by 3% from

FY2017. In addition, as CPKO price softened that led to the lower of discount of feedstock price, the company recorded EBITDA of THB 494 million, decreased by 35% from FY2017. The company had Adjusted EBITDA of THB 877 million, decreased by 28% from FY2017 after deducting Stock Loss & NRV of THB 383 million.

Consolidated Profit & Loss Statement

Figure 6: Consolidated Profit & Loss Statement comparison of FY2018 and FY2017

	FY 2018		FY 2017		YoY	
	Million THB	%	Million THB	%	Million THB	%
Sale Revenue	16,225	100	19,472	100	(3,247)	(17)
Feedstock	(12,075)	(74)	(15,131)	(78)	3,056	(20)
Net Realizable Value (NRV)	(2)	(0)	(2)	(0)	-	n/a
Product to Feed Margin	4,148	26	4,339	22	(191)	(4)
Variable Costs	(1,936)	(12)	(1,693)	(9)	(243)	14
Fixed Costs	(556)	(3)	(555)	(3)	(1)	0
Stock Gain/(Loss)	(461)	(3)	(662)	(3)	201	(30)
SG&A	(368)	(2)	(342)	(2)	(26)	8
Other Income	96	1	52	0	44	85
EBITDA	923	6	1,138	6	(215)	(19)
Depreciation and Amortization	(520)	(3)	(564)	(3)	44	(8)
EBIT	403	2	574	3	(171)	(30)
Net Financial Costs	(24)	(0)	(57)	(0)	33	(58)
FX Gain/Loss ⁽¹⁾	6	0	(80)	(0)	86	(108)
Share of Profit/(Loss) from Investment	102	1	87	0	15	17
Income Tax Expenses	0	0	(2)	(0)	2	(100)
Net Profit before Extra Items	487	3	521	3	(34)	(7)
Extra Item Net of Tax ⁽²⁾	(1,648)	(10)	-	-	(1,648)	n/a
Net Profit after extra items	(1,161)	(7)	521	3	(1,682)	(323)

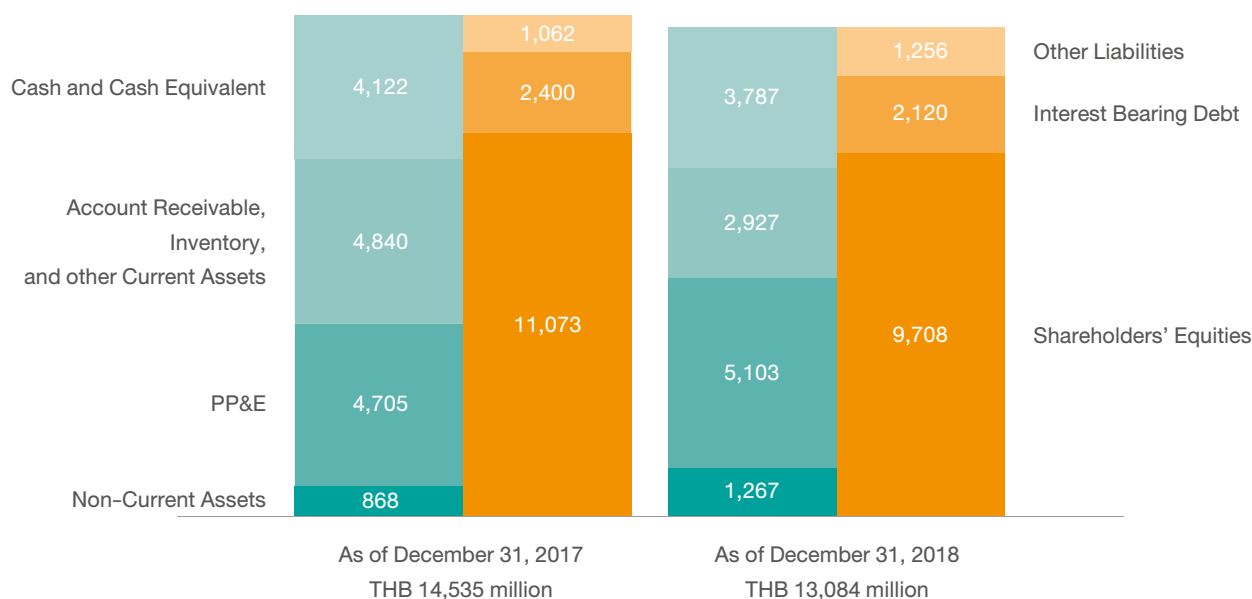
Remark :

(1) Including Gain/(Loss) from FX and Derivatives

(2) Extra items were expenses from raw materials derogation amounting to THB 2,004 million net of tax income from deferred tax assets amounting to THB 356 million.

Statement of Financial Position

Exhibit 2: Consolidated Financial Position as of December 31, 2018 and as of December 31, 2017



Assets

As of December 31, 2018, the company had total assets of THB 13,084 million, decreased from December 31, 2017 by THB 1,451 million due to reasons as follow

- a decrease in current assets of THB 2,249 million, which was mainly due to the lower account receivable of THB 595 million because of the declining of Methyl Ester and natural Fatty Alcohols price from the end of previous year.
- a decrease in inventory of THB 1,288 million mainly from the expenses of raw materials derogation and a declining of short-term investment of THB 300 million, which was mainly due to an increase in capital utilization from initial public offering (“IPO”) for investment in Methyl Ester Plant 2 project.
- an increase in non-current assets of THB 798 million, attributed from the increasing of PP&E value of THB 841 million which mainly came from investment in Methyl Ester Plant 2 project, offsetting by depreciation of non-current assets of THB 443 million and increase in deferred tax asset of THB 355 million.

Liabilities

As of December 31, 2018, the company had total liabilities of THB 3,376 million, a decrease of THB 86 million or 2% from December 31, 2017 because the decrease in long-term loan as the Company had made repayment as per schedule, and the decrease in payable to contractor as the company had made payment regarding to Methyl Ester Plant 2 progress. However, it was offsetted by the increase in account payable, attributed from purchasing of crude palm oil for Methyl Ester Plant 2 production.

Shareholder's equities

As of December 31, 2018, the company had total shareholders' equity of THB 9,708 million, decreased from December 31, 2017 by THB 1,365 million or 12% because of net loss in FY2018 amounting to THB 1,161 million. Whereas, there was the dividend payment of THB 204 million as the company's Board of Directors approved resolution for the 2H2017 performance.

Statement of Cash Flows

The company had cash from operating activities of THB 1,039 million which included 1) the cash from net profit before extra items of THB 487 million, and other operating activities of THB 552 million which was attributable to a decrease from accounts receivable; 2) Cash flow spending for investing activities of THB 509 million, which was spent on obtaining PP&E for THB 912 million, mainly due to investment in Methyl Ester Plant 2 project. While, a decrease in deposits with financial institutions of THB 300 million and the receiving of dividend from TEX amounting to THB 91 million; and 3) Cash Flow spending for financing activities of THB 559 million, which was from annual dividend payment, long-term loan principal repayment and interest payment.



Project Progress

In 2018, GGC's projects in progress and projects under study were as follows:

Methyl Ester Plant 2 Project

The Methyl Ester Plant 2 Project with a capacity of 200,000 tons/year (TPA), designed to capture growth opportunities in the biodiesel industry in Thailand, started construction in March 2017 and was completed in 2018. It is under testing run for commercial operation, and it has started delivering the products since November 2018. The plant is located at Thai Eastern Industrial Land, Amphoe Nong Yai, Chonburi, with a total capital expenditure of about THB 1.65 billion.

Kernel Nut Extraction Project

To secure access to CPKO (Crude palm kernel oil), GGC has entered into a joint venture with Eastern Palm Oil Company Limited, in which GGC holds 30% shares to develop a palm kernel oil extraction plant with a feedstock capacity of 90,000 TPA since November 1, 2016, to process palm kernels into CPKO. The Kernel Nut Extraction Project is in fact located in the same area as the Methyl Ester Plant 2 Project. GGC expected this joint venture will enable GGC to secure CPKO at more competitive prices to in turn improve the profitability of Fatty Alcohols. The total investment costs is about THB 380 million, and commercial operation started in May 2018.

Refined Glycerine Plant 2 Project

The purpose of the Refined Glycerine Plant 2 Project is to expand the Glycerine business and capture market growth of high-volume industries. The feedstock of this project is crude Glycerine from Methyl Ester Plant 2. Refined Glycerine serves as feedstock or an additive in various industries. GGC has already selected a technology for the plant, and GGC is under the process of contractor evaluation. The new plant is expected to start commercial operation in Q2/2020 with a capacity of 20,000 TPA, and the total capital expenditure is about THB 326 million.

Nakhon Sawan Biocomplex Project

The Nakhon Sawan Biocomplex Project is a collaboration project between GGC Biochemical Company Limited, a wholly owned subsidiary of the company, and KTIS Bioethanol Company Limited, a wholly owned subsidiary of Kaset Thai International Sugar Corporation Public Company Limited (KTIS), following an approval of the Cabinet for the Thai Bio-Industries Promotion 2018–2027 measures on July 17, 2018. The project, located in the province of Nakhon Sawan, will be developed in two phases.

- The first phase of investment consists of:
 - (1) a sugar mill with a capacity of 2.4 million TPA,
 - (2) an ethanol plant with a capacity of 186 liters/year and based on sugar juice from the sugar mill,
 - (3) a cogeneration power plant for internal use with a potential to export the excess capacity,
 - (4) Infrastructure for supporting Nakhon Sawan Biocomplex project, which has designed the plant and is in process of selecting contractors.The project is expected to be able to start commercial production in the first quarter of 2021.
- The second phase of investment consists of:

Biocomplex phase 2, an extension project to Bioplastics and Biochemicals industries, which is in the process of finding an appropriate technology and partners.



Risk Management and Risk Factors

Risk Management

GGC is committed to managing enterprise risks efficiently with relentless improvement of its enterprise risk management (ERM). It appointed a Risk Management Committee in the Board of Directors level down to the operating level and assigned responsible units to coordinate corporate risk management to assess risks and manage them, taking into account internal and external business circumstances that could harm its current businesses. GGC integrates its risk appetite assessment into the formulation of strategic, investment, and business planning processes, to further ensure the alignment of its business operations with corporate objectives and goals for the short-term and long-term risks, together with emerging risks, and apply assorted preventive measures to the development of effective corporate strategic plans. GGC fully conducts risk management under the risk management policy, scope, and guidelines approved by the Risk Management Committee and the Board of Directors, with constantly monitoring and improvement to be compatible with the current and future business circumstances.

GGC has focused on promoting the enterprise risk management culture for all—the Board of Directors, Executives, and employees. To this end, it promotes expertise and understanding of this matter and advocates risk management as everyone's duty. Also, it values the deliberation and review of risk management to cover all risks with potential business repercussions.

Risk Management Standards

Besides conforming to the internationally recognized standards of COSO (The Committee of Sponsoring Organizations of the Treadway Commission) and ISO 31000 (International Organization for Standardization), GGC's enterprise risk management policy and guidelines are fully aligned with its Corporate Governance by participating in Collective Action Coalition Against Corruption (CAC).

Risk Management Structure

GGC efficiently manages Risk Management Structure into three levels: the Board of Directors, Executives and the department levels.

- The Board of Directors: The Risk Management Committee (RMC), appointed by the Board of Directors (BOD), performs the duties of reviewing the risk management policy, objectives and framework together with giving relevant opinions and recommendations to ensure enterprise-wide alignment and compatibility with GGC's business goals and strategies.
- Executives: Appointed Managing Director as the Chairman consist of Vice President from diverse department as members. The Enterprise Risk Management Committee (ERMC) specifies GGC's risk management directions, work plans, scopes and processes, constantly gives recommendations, and regularly oversees and monitors the management of risks.
- At the departmental level, Corporate Risk Management, a unit under Corporate Strategy, and the risk coordinator of each department jointly performs risk identification and assessment, undertakes risk management and regularly prepares risk management reports for submission to the Risk Management Committee under GGC's risk management structure.

GGC has also appointed a Value Chain Management Committee (VCM) to be more efficiently in management of feedstock and product pricing and foreign exchange rates. The committee reviews and endorses marketing plans, sales distribution, feedstock purchasing and company's product, management of product-to-feedstock price margin as well as financial and inventory management. It also monitors repercussions of economic, industrial situations and market situations which related products under the risk management scope endorsed by the Risk Management Committee.

Risk Management Tools and Monitoring

GGC efficiently manages its risks by analyzing and assessing all risks potentially affecting its business operations, generating risk maps, specifying mitigation plans and applying Key Risk Indicators (KRIs) in its Early Warning System to monitor risk management. It also values long-term risks and emerging risks so as to prepare measures for such risk management. Risk management reports are submitted to the management committee monthly and to the Risk Management Committee and the Board of Directors every quarter. To this end, the Enterprise Risk Management Committee and the Risk Management Committee assign taskforces directly up to responsible departments to present risk prevention plans if risks are at the alert level with significant implications for business.

Risk Management Culture

Focusing on enhancing an enterprise-wide culture of risk management as part of all employees' responsibilities for steady and sustainable corporate growth, GGC undertakes the following actions:

- Specifying risk management approaches via the risk management policy and scope, with regular communication to all employees.
- Constantly monitoring the progress of risk management efforts and reporting them to the Executives, Risk Management Committee and Board of Directors.
- Regularly reviewing and improving risk management roles, duties and responsibilities of related person.
- Fostering among all employees the recognition and attentiveness for their responsibility in managing risks and complying with GGC's risk management policy and system at corporate and departmental levels. For this purpose, risk management has been made part of all employees' job descriptions.

GGC has provided enterprise risk management knowledge and understanding, ranging from the Board of Directors, Executives, to all members of the rank and file via knowledge and understanding promotion conducted by experts and integrate risk management into personnel development plans.

Risk Factors

Based on the analysis of its business environment, internal and external risk factors, and socioeconomic, technological, industrial, and other applicable trends, this year GGC has identified key risk factors for the unachievement of its business operations, investments, and strategies, or all of these. These risk factors and risk management measures are described below.

Operations and Safety Risk

Focusing on production activities and safety, GGC applies the Operational Excellence Management System (OEMS) and Process Safety Management (PSM), with strict compliance with the policy on safety, security, occupational health and the environment. In ensuring continual and efficient production with maximum safety, GGC has issued the following risk management measures:

Risk Management Measures

- Performing reliability & integrity management on machinery, with inspection carried out by GGC's experts using the Asset Integrity Assessment program (AIA).
- Preparing spare parts for all key production equipment and installing emergency supply of electricity for power blackouts, with preventive maintenance services provided to machinery.
- Undertaking Risk and Reliability Management (RRM) by conducting Risk-Based Inspection (RBI), a process for the identification, assessment, and mapping of industrial risks (due to the corrosion and stresses cracking), which may affect to pressurized equipment and structural components; and performing Reliability-Centered Maintenance (RCM) tasks to raise the reliability of assets, their availability and the cost effectiveness of their maintenance if correctly undertaken.

Safety Risk Management Measures

- Developing Process Safety Management (PSM) and assessing the effectiveness of process safety

performance and machinery stability and performance management.

- Developing the knowledge and competency of operating and safety personnel and raising operating safety awareness through the B-CAREs project.
- Appointing a Workplace Safety, Health, and Environment Committee to review workplace safety policies and plans as well as off-the-job safety to minimize accidents and unsafe acts. This panel also reports, recommends measures and approaches for correction under laws dealing with work safety and safety standards.
- Conducting Business Continuity Plan (BCP) drilled every year to prepare staffs to be well-versed in emergency procedures and bolster confidence that GGC would ease emergency impacts for business interruptions.
- Taking out essential insurance to mitigate impacts of business-related losses.
- Applying Field Risk Assessment (FRA) to identify abnormality or deviation from design intention for consistently efficient barriers of protection. That way, GGC is capable of preventing major accidents.

Operations, Strategy and Investment Risk

Changes in business environment may affect GGC's implementation of its strategies, investment, and business expansion. To ensure achievement of its strategic goals while sustaining its competitiveness, GGC has defined the following risk management measures:

Risk Management Measures

- Defining a process of corporate strategic planning covering ten-year business directions, five-year strategic plans, operating plans, annual corporate KPIs and a process for business plans for corporate harmony. Also, GGC conducts performance monitoring and updates of work under strategic plans. These are constantly reported to the Management Committee and the Board of Directors.
- GGC appointed an Investment Committee to

oversee, screen, drive, and recommend on individual investment, in line with strategic directions and growth before request for investment approval to the Management Committee and the Board of Directors.

- Employing Corporate Investment Management (CIM) process that is prudent with a clear procedure for the consideration of investment projects, covering the identification of investment opportunities, selection of business partners and business patterns, the feasibility-study stage and project screening before submission to the Board of Directors for approval. In place is a process for monitoring and assessment ("Look Back") of completed projects for GGC's future project management, serving as future projects' development guidelines.
- Regarding the consideration of major capital-intensive projects and projects considered significant to business, the Risk Management Committee screens risk assessment and project risk management measures before submission to the Board of Directors, with constant monitoring of the management of the risks facing these projects.
- In seeking new investment opportunities in 2018, GGC took part in a working group under the joint committee between the public and private sectors to support the government's Bioeconomy implementation and cooperation to support the Eastern Economic Corridor of Innovation (EECI). These provided GGC with the opportunities to forge R&D and innovation networks both locally and internationally.

People and Organization Capability Risk

GGC has created strategic mobilization plan and business extension of green products toward goals, GGC has prepared its human resources in expertise and competency, as well as an adequate headcount, together with reasonable incentives and cultivating positive behavior in line with the core corporate values and culture. Also, corporate structures have been developed in support of business growth that is secure and sustainable in the long term.

Risk Management Measures

- Appointing a Human Resource Management Committee to review strategies and guidelines for human resources development, as well as approaches and methods of establishing a corporate culture.
- Planning and managing its manpower for addressing its strategies and changes in business competition, focusing on the current personnel management to address potential changes, and personnel recruitment to strengthen GGC's growth for new business products in line with its strategic plan.
- Developing annual individual development plans for all employees that focus on development of hard skills and soft skills, which are instrumental to effective teamwork.
- Organizing employee orientation and onboarding camps to communicate business overviews, business directions, and understanding of core corporate values, and promote cordial relations among new employees, their ease adaptation to GGC, and employee participation in corporate matters.
- Designing management training curricula, including attendance of the Leadership Development Program to develop leadership and business appreciation and enhance their skills, and improvement of the efficiency of personnel in their respective departments so that all staff may perform their work in line with GGC's business goals with inspiration. This way, the company prepares the management for further growth.
- Developing technical career paths to prepare employees in line with GGC's long-term growth outlook.
- Developing operating staff's process, safety, and soft skills training in order to improve efficiently exercise teamwork and possess thinking skills as well as systematic decision-making. Process and safety knowledge skills are annually refreshed. Field Risk Analysis curricula are included in training plans to enable employees to identify risks in plant work and plan risk management for higher plant safety.

- Encouraging all level of employees to be aware of Ethics and compliance with The Business Code of Conduct which consists of annual assessment of Ethics, communications and knowledge sharing on ethical issues, improvement of the Whistleblower system, revision of the Business Code of Conduct as well as activities in sharing experiences in Corporate Governance.

Feedstock Risk

Palm oil and palm kernel oil are GGC's main feedstock. Fluctuations in feedstock prices may harm business outcomes and the company's bottom line. Shortage of processing feedstock could also harm production processes. To maintain its competitiveness, acquisition of sufficient quantities of these materials is crucial to GGC, which is why it must ensure that their qualities and prices are suitable. Recognizing the need to manage its raw materials risks, GGC has defined the following measures:

Risk Management Measures

- Setting scopes for inventory risk management for feedstock and products that suit GGC's business and align with the market, with regular performance monitoring by the Risk Management Committee.
- Appointing a Value Chain Management Committee (VCM) to oversee feedstock price management, feedstock purchase, inventory management and monitor economic and industrial impacts and monitor feedstock markets to align with volatile markets and economy. To this end, risk management scopes approved by the Risk Management Committee (RMC) serve as the basis.
- Investigating and defining a risk preventive approach for the prices of CPKO (crude palm kernel oil), feedstock for the Fatty Alcohols process, and managing risks of feedstock price volatility. To this end, GGC looked into feedstock price changes compared with derivatives based on other agricultural produce that could be linked and therefore become tools for preventing feedstock price volatility.

Inventory Management Risk that are stored at External Storage

GGC stores its own inventories at both internal and external storages, in which for the part of external storages—there is a risk that the service provider may not execute according to the agreement or execute not according to the standard of storagement of the warehouse. Moreover, the operation process of the employee may not be accurate with the work procedure which may result in discrepancy of the volume of inventory and the volume in the company system. To ensure efficient inventory management, GGC has managed risks as summarized below:

Risk Management Measures

The Company recognized these risks and has taken steps to improve operational processes for both the procedure of feedstock storagement and the management of Inventory store in external storage, namely reducing the dependency of external storage, the Company will validate and check the process regularly, if necessary. In addition, the Company will evaluate the performance of the service provider to check the quality and the service of their service provider. The result of the quality of their service is for the Company to improve the management of Inventory storage to ensure that the so-called procedures have been mitigated.

Sales and Market Risk

Domestic sales prices of Methyl Ester are referenced to the Energy Policy and Planning Office's announced weekly prices. These prices are tied to domestic feedstock prices of the likes of crude palm oil, RBD palm oil, and palm stearin announced by DIT (Department of Internal Trade) and serve as reference prices for feedstock purchase negotiations. Note that feedstock prices (GGC's costs) may sometimes differ from domestic (DIT-announced) feedstock prices, since these prices could sustain impacts of several factors, including feedstock demand and supply, other vegetable oil demand and supply, world economy, crude oil prices, and

climate conditions. Nevertheless, GGC's feedstock cost price generally follows DIT-announced trends.

The prices of Fatty Alcohols depend on a number of factors, for example, feedstock prices, domestic and global demand for Fatty Alcohols, and competitive factors, which include industrial capacities and produced volumes. Besides competition with natural Fatty Alcohols, GGC's Fatty Alcohols must compete with Synthetic Fatty Alcohols, which could replace Natural Fatty Alcohols in some products. For such products, GGC's customers primarily base their selection on prices, which is why the pricing of some of GGC's Natural Fatty Alcohols is subject to those of Synthetic Fatty Alcohols.

To maintain industrial competitiveness, GGC has taken the following risk management actions:

Risk Management Measures

- Appointing a Value Chain Management Committee (VCM) to oversee feedstock price management, define price scopes for feedstock purchases and product sales and monitor feedstock and product prices weekly, as well as their demand and supply. Also, properly considering improvement for processing and feedstock selection by choosing cheaper alternative feedstock for GGC's processes so as to maintain price spreads
- Conducting R&D and innovation on special or new grades of products to add value as required by customers and extending its business to downstream industries to raise the profit margin ratios of GGC's products while serving market and customers' needs.
- Seeking for Methyl Ester export opportunities and for new markets as well as new business partners so as to identify sales channels and sell more Fatty Alcohols in global markets.
- Promoting brand awareness through marketing activities, including exhibitions to promote marketing and forge customer engagement with GGC's products.

Policy and Regulatory Change Risk

GGC is well prepared for relevant changes in public policies, regulations and announcements, including the government's announcement on the mixture adjustment for Biodiesel, which could impact GGC's business (either opportunities or risks). To ensure timely responses to these changes, which may positively or unfavorably affect its business, GGC has taken the following management measures:

Risk Management Measures

- Providing comments and data to the public sector in support of the development of biochemical and related industries.
- Conducting assessment and study of laws, government regulations, and privileges in conducting project feasibility studies and risk management for investment consideration.
- Monitoring the public sector's key information and legislation changes potentially affecting business to correspondingly modify GGC's policies and operations.

Cyber Security Risks

GGC's business relies on its IT system to ensure smooth coordination of all departments, while cyber-attacks and IT-based threats have become increasingly severe and appear in more diverse forms. If any IT security violation or virus attacks, or both, cause the system to malfunction or break down, GGC's businesses and reliability may be affected. To reduce such threats, GGC has undertaken the following risk management measures:

Risk Management Measures

- Using IT services provided by PTT Digital Solution Co., Ltd., the provider of IT services for PTT Group. Internationally recognized as a competent service provider, this company offers high levels of security services through its team of specialists.
- Communicating to all staff and related parties under ISO/IEC 27032:2012-(Guidelines for Cyber-Security) to provide knowledge and foster their awareness of IT security, relevant threats and IT-related laws.

- Organizing emergency drills to handle threats, known as cyber-security drills, and test recovery of data, together with the annual preparation of BCP (Business Continuity Plans) to ensure a timely response to emergencies to ease potential damage to GGC's data.

Foreign Exchange Rate Risks

GGC's products are also sold to international customers, including Fatty Alcohols and Glycerine, whose sales prices are in US dollars. Currency exchange (THB:USD) fluctuation therefore poses a significant financial threats. To manage its currency exchange rate risks, GGC has undertaken the following measures:

Risk Management Measures

Appointing a Value Chain Management Committee (VCM) to oversee the movement of the exchange rate by targeting appropriated risk management align with Company Business plan, approve risk management plan for foreign exchange rate and derivatives in accordance with the risk management framework approved by the Risk Management Committee.

Fraud Risks

GGC values anti-corruption actions to prevent all malfeasance or abuse of positions—whether giving or accepting bribes, presenting or promising to give, requesting or demanding assets, cash, items, or other benefits in violation of laws, regulations, or policies involving the public sector or other parties engaging in business with the company. Below are its actions for managing fraud risks:

Risk Management Measures

- Establishing a Corporate Governance and Business Code of Conduct Handbook and administering an Ethics Test to gauge employees' expertise of its contents; and annually revising the handbook in line with GGC's requirements and regulations, including the securities act and CG Code 2017.
- Improved The Manual of Delegated Authorities (MODA) to delegates and manage authorities in

each level to be in line with over business process of the company in order to monitor and control the performance as well as to have check and balance.

- Formulated the Conflict of Interest Declaration, which all employees and related Executives sign for acknowledgement through GGC's Intranet annually.
- Improved and encouraged the expression of views or complaints through the whistleblowing system, under which all employees can express their views or grievances through various channels, including GGC's website, direct submission to the Chairman of Corporate Governance and Sustainable Development Committee, mailing to the Head Office, or informing supervisors. The Corporate Secretary is responsible for assessing and reporting complaints before submitting them to trusted persons and for monitoring such complaints.
- Informed the management, employees, and related parties, such as business partners and customers, about the anti-corruption policy and guidelines; also, disclosed them on GGC's website in accordance with Corporate Governance and CAC's (Collective Action Coalition against Corruption) rules.

- Defined a policy and procedure for engagement in RPTs (related party transactions) so that each decision to engage with related parties may proceed with integrity, transparency, auditability, and fairness to stakeholders in compliance with corporate governance principles, while easing the impacts of potential conflicts of interest in work processes.

Despite GGC's issued measures for systematic risk management embracing significant business risks, In 2018, GGC was affected by risks of feedstock inventory management and risks arising from business partner management. This issue occurred from certain employees' willful violation of GGC's regulations overriding control. The details of feedstock sourcing and product sales are elaborated in "Inventory Shortall Incident".



Internal Control

Global Green Chemical Public Company Limited (GGC) has placed importance on Internal Control which has been designed in accordance with the International Standard of the Committee of Sponsoring Organizations of the Treadway Commission (COSO) to achieve the objectives related to operating, reporting, and compliance. These would create a supportive of GGC Business Activity and Operation to be accuracy, transparency and finally accomplished on GGC's goal.

Regarding to the Board of Directors' Meeting No.3/2018 on February 18th, 2018, GGC Internal Control System was evaluated from the Internal Control Assessment Report which prepared by the Management that follows the guideline of the Security and Exchange Commission (SEC). With the Audit Committee's opinion on control system, The Board reviewed GGC's Internal Control System has been functioning properly in an adequate and effective system. The operation has been efficiently managed with sufficient number of qualified and competent personnel. Moreover, GGC has implemented a monitoring system to ensure safeguarding of GGC group's assets against misused or unauthorized access by the Board or the Management and also including related parties transaction or any conflict of interests activity.

GGC Internal Control has been managed under the scope of COSO which consist of five elements, so called Control Environment, Risk Assessment, Control Activities, Information and Communication and Monitoring and Reporting Activities. The company's internal control system can be summarized as follow:

Control Environment

The Board and the Management governance company's operation and business activities under integrity and business ethics. Moreover, they have promoted a corporate culture to support a member of company staffs working with honesty, morality, and responsibility. The control provided a supervision of GGC's operations to ensure its compliance with the organization vision and mission and to ensure that GGC's control environment is appropriate for the implementation of the Internal Control System as details below:

- The Board is independent from the Management and they are responsible for supervising the overall operations of GGC as well as expressing views on the directions and strategy for GGC which will be used as guidelines to formulate business and operating plan. Furthermore, the Board has regularly monitored the performance of GGC and its sub-committee to ensure achievement of GGC's objective and goals.
- GGC's Corporate Structure has been grouped into business units and functions in a way to nest support its business operations with an efficient manner and good corporate governance.

The Structure has been designed with a checks and balances system which delegates duties and responsibilities appropriately. Furthermore, all employees acknowledge their roles, authorities, responsibilities, and accountabilities.

- The Board has established the Corporate Governance Policy and Good Corporate Governance Manual which provided a preferred practice for all Directors, the Management, Employees. All employees are accountable for their internal control with a continuously effective internal control system. Moreover, GGC announced its Anti-Corruption Policy and Guideline which shown our intention against Corruption which GGC has granted a Certifications from Thailand's Private Sectors Collective Action Coalition Against Corruption (CAC).
- GGC has implemented Whistleblower Policy and Procedure which indicated a scope of any compliant and protest. Moreover, we also created more whistleblower channels including a higher witness protection program and a way of conducts with fairness and transparency.
- GGC's has given Good Corporate Governance knowledge (CG) to the Directors, the Management

and Employees. The Knowledge consists of Corporate Compliance and Good Corporate Governance, Business Ethic, Conflict of Interests and Anti-Corruption and the CG knowledge has been communicated through corporate communication channel by monthly.

- The Board of Directors appointed a Human resource Committee to have roles and responsible for a whole picture of Company Human Resource Management and strive company to manage human resource to be effectiveness and efficiency which would be supportive for company's growth strategy and also driven GGC to create a greater corporate core value.
- GGC Corporate Culture has been implemented to all Employee which they aware of Business Ethical and Good Corporate Governance. There would be a principle of Way of Conducts to drive company growth with sustainability method.
- GGC 's human resource management process has defined the qualifications for each job position which has it own criteria on recruitment process. Moreover, human resource development and performance appraisal have been implemented with fairness and transparency.
- GGC has its Internal Control Policy which the Board, the Management, and Employees aware of the important of Internal Control Process by using Good Corporate Governance to be Way of Conducts to support GGC Operation and Business Activities to achieve company objectives and goals.

Risk Assessment

GGC has recognized the significance of Risk Management as an enabler for GGC members in order to achieve its short-term and long-term goal. The Board of Directors has appointed The Risk Management Committee (RMC) to have roles and responsibility to create and review Risk Management Policy, Risk Management Framework, and Risk Management Monitoring system and Mitigation Plan. Moreover, the committee has given a value of recommendation and suggestion to Corporate Risk Profile and Investment Risk over Company's new growth project. Moreover, The RMC has

established sub-committee so called Enterprise Risk Management Committee (ERMC) which consists of The Managing Director as Chairman of Committee, and the Management are responsible for the effectiveness and efficiency on corporate risk management which aim their achievement to company's business goal. GGC's Risk Management approach will be defined as below.

- The Board of Directors and RMC has given an attention to create more risk management and risk awareness into Corporate Culture. They have deployed Risk Management Policy to all member of the company staffs to have an awareness and understand on risk management as one of apart in Corporate Culture. Moreover, the management also encouraged all staff members to create working environment which complied with Company's Risk Management Policy and accepted risk management to be their roles and responsibility.
- The company has promoted a leaning and development program for The Directors, the Management, all member of staffs to understand on Corporate Risk Profile and allocate identify Risk Management Activity to be in staff's job description.
- The company has established Company's goals and Objectives based on Vision and Mission for the company
- The company has implemented ISO 31000 (Risk Management) and COSO Enterprise Risk Management to be company's risk framework and also launched Company's Risk Management Policy to be their guideline for corporate risk management.
- The company has identified Corporate Risk Profile which defined from the Risk Identification, Risk Analysis and Risk Assessment both Corporate level and Business Units. Moreover, they also shown an annually risk measurement and mitigation plan to minimize the impact of company objective and goals.
- The company have done risk evaluation based on the uncertainty of internal and external factors. They have the assessment methods to

monitor corporate risk and to maintain those risks within the boundaries of the company's tolerance levels. Moreover, the company also implement Risk Indicator (KRI) system to be the instruments for monitoring risk and uncertainty which might impact to corporate objectives and goal. The reporting will be presented to ERM by monthly and the result and performance on corporate risk management will be reported to RMC by quarterly.

Control Activities

GGC has the Internal Control System which govern the company's key major operation, business activities, and risk management process, for minimize the impacts of risk and uncertainty that would make the company not reach their objective and goals.

- The company has specified the preventive and mitigation plans from risk and uncertainty which aligned with the Corporate Risk Assessment and maintain those risks within the boundaries of the company's tolerance levels. The risk monitoring report and risk mitigation result will be presented to RMC and the Board of Direction.
- The company has the control process which well-covered to company's key major operation, business activities that work process established with in Manual Control System and Automated Control System. Both would be a significance system to be preventive control and detective control.
- The company has the control process for IT Access and Security System such as Access Control: User Name and Password before directly access personal computer and also Authorization Control for any office automation system. These control systems would create an effective company security system. Moreover, the company has announced IT Security Policy to ensure that company's IT system would be more highly security and also without any disruption.

- The company released Company's rules and regulation, way of conducts, Corporate policy and Good Corporate Governance Manual which have stated Internal Control and Good Corporate Governance. And the control manual that Company has released such as Good Corporate Governance Manual and Related Parties Transactions Policy (RPTs Policy).

Information & Communication

GGC has recognized the criticality of the quality of Information and Communication both internal and external channels that effectively supported company operations with details as below:

- GGC have completed the management reports for The Board of Directors based on a fully analysis with variety of information support from both internal and external factors. These information showed the trend of business performance and Production and Sales performance and Stock and Inventory levels which Financial Report, and other management report may need those information to be provided. The effectiveness and sufficiency information on management report would be a significant information to assist the Board of Director for making decision. If the Board of Director requires any information to support their decision, the company will take a responsibility to provide relevant information for their consideration.
- The company has provided a variety of Internal Communication Process which its workable with type of information and the objectives of Corporate Communication such as Type of Communication, Communication Direction, Communication Targets and Objectives and Policy Communication via MD Town Hall, Communication between Cross Functional Team, On Site Visit Staff Communication, The Directors' Meet & Greet Staff Activity, and finally Communication to staffs via company intranet and emails.

- The company has the Communication Process to connect company's information for stakeholders which including Company website and Investor Relationships. Moreover, they also have Corporate Communication and Social Responsibility. Moreover, the company revised the Whistleblower process to become more effectiveness by expansion more channel and established in BOX Message from any stakeholders within Company's website.

Monitoring and Reporting Activities

GGC has ensured that there will be an adequacy and efficiency on Internal Control's monitoring and assessment process as below:

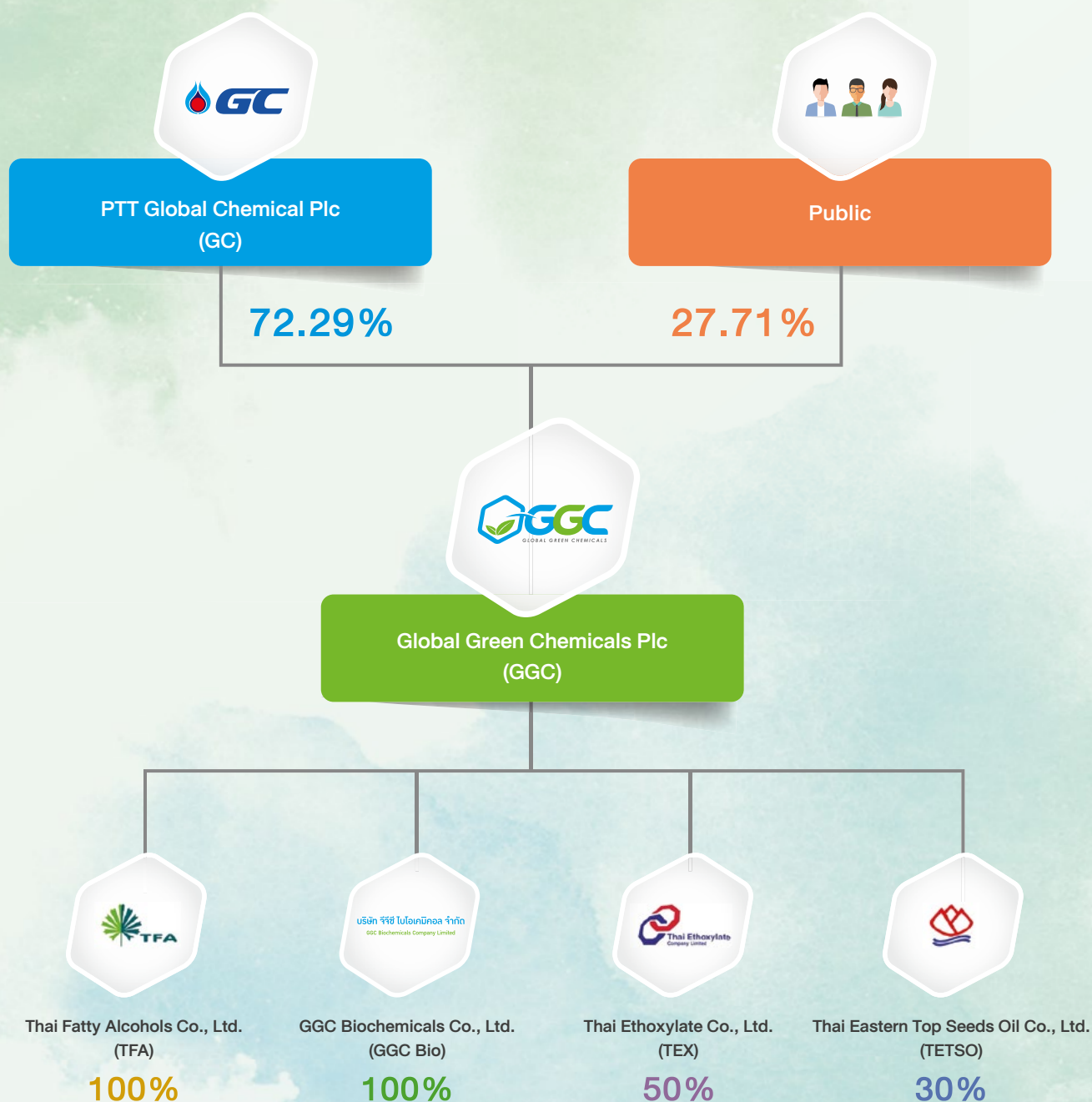
- The company has assigned Business Units to engage on Control Self Assessment which could support the Management for Internal Control Assessment, Control Development, Control Implementation and Supervision on Control Process which are applicable with Company's Internal Control System. Moreover, there would be value of recommendation to improve and monitor internal control process as the 2nd Line of Defence which will have an effectiveness Internal Control Assessment Report to be presented for executive management.
- The company has reviewed its Internal Control Process together with the external expert who well-known on the industry on Internal Control Assessment. The expert has given suggestion over Internal Control Process which we could develop and improve company's business process and operation process to be more effective and efficiency.
- The Internal Audit has independently reviewed the effectiveness on GGC's Internal Control system which assured on Business Sub-Process and Operation Process based on Company's Strategic Growth and Risk Profile that might impact to company performance. The report on Internal Control Process which Internal Audit has reviewed, will regular be presented to the Audit Committee.

In 2018, the Audit Report did not find any significant issues related to conflict of interests, fraudulent activities, or any other significant deficiencies in the Internal Control System materially in affect GGC's objective. Furthermore, there is NO violations of SEC and SET Rules and regulations or other laws related to GGC were found.

According to The Inventory Issue, The Company aware of the essence of Internal Control System. We have re-assured Internal Control Process especially, Feedstock Sourcing and Inventory Management Process. The Internal Audit and the independent expert on Internal Control both agreed that GGC Internal Control have sufficient enough including Segregation of Duties and control process to prevent and detect . Nevertheless, the Inventory Issue incident caused by an override control system from some of company staffs who conspired with several suppliers

However, the company have improved a higher level on Internal Control System which are workable with business environment. Therefore, we believe there would not be such a circumstance to be occur in the future. We also implemented more strictly control process that its would prevent any override especially Feedstock Sourcing and Inventory Management Process. (A full detail on The Inventory Issue will be shown on Inventory Shortfall Incident)

Shareholding Structure in Subsidiaries and Affiliates



Note:

Subsidiary

- Thai Fatty Alcohols Company Limited (TFA)
- GGC Biochemicals Company Limited (GGC Bio)

Joint Ventures

- Thai Eastern Top Seeds Oil Company Limited (TETSO) represents a joint venture formed by GGC and Eastern Palm Oils Company Limited (EPO), which holds 70% shares in TETSO and operates Palm Kernel Oil extraction business
- Thai Ethoxylate Company Limited (TEX) represents a joint venture formed by GGC and BASF (Thai) (a subsidiary of BASF SE), which holds 50% shares in TEX

Connected Transactions

For Fiscal Year 2018, GGC conducted business transactions with its subsidiaries and related companies with common shareholders or Directors. Connected transactions with other entities of potential conflicts of interest are based on market or contractual prices if there are no reference market prices. Details of the relationships with these companies are as follows:

Company	Relationship (As of December 31, 2018)	Connected Transaction	2016	2017	2018
(Million THB)					
PTT Public Company Limited (PTT)	<ul style="list-style-type: none"> Major shareholder of GC holds 48.89% of the shares in GC Director who is PTT Executive: <ol style="list-style-type: none"> Mr. Supattanapong Punmeechaow Sales/purchase transactions of products and services 	Statement of Income Items			
		Sales of goods or services	5,207	5,245	2,333
		Purchases of goods or services	275	675	2,134
		Other income	16	16	49
		Other expenses	3	5	4
		Statement of Financial Position Items			
		Trade accounts receivable – related parties	330	356	-
		Other accounts receivable – related parties	1	3	4
		Trade accounts payable – related parties	31	37	65
		Other accounts payable – related parties	1	2	3
PTT Global Chemical Public Company Limited (GC)	<ul style="list-style-type: none"> Major shareholder holds 72.29% of the shares of GGC Common Director: <ol style="list-style-type: none"> Mr. Supattanapong Punmeechaow Directors who are GC Executives: <ol style="list-style-type: none"> Mr. Supattanapong Punmeechaow Mr. Patiparn Sukorndhaman Mr. Narongsak Jivakanun Mr. Sekxon Arttamangkura Sales/purchase transactions of products and services 	Statement of Income Items			
		Sales of goods or services	961	1,230	947
		Purchases of goods or services	166	188	220
		Other income	19	13	8
		Other expenses	84	92	96
		Statement of Financial Position Items			
		Trade accounts receivable – related parties	60	52	21
		Other accounts receivable – related parties	9	11	23
		Trade accounts payable – related parties	8	9	25
		Other accounts payable – related parties	36	43	39
Thai Eastern Top Seeds Oil Company Limited (TETSO)	<ul style="list-style-type: none"> GGC holds 30% of the shares Executives who are TETSO Directors: <ol style="list-style-type: none"> Mr. Chanasiri Vanit Ms. Wanlapa Sophiskhaunkhant Sales/purchase transactions of products and services 	Statement of Income Items			
		Purchases of goods or services	-	86	249
		Statement of Financial Position Items			
		Trade accounts payable – related parties	-	2	4

Company	Relationship (As of December 31, 2018)	Connected Transaction	2016	2017	2018
(Million THB)					
Thai Ethoxylate Company Limited (TEX)	<ul style="list-style-type: none"> • GGC holds 50% of the shares • Common Director: 1. Mr. Sekxon Arttamangkura • Executive who is a TEX Director: 1. Mr. Piya Suri • Sales/purchase transactions of products and services • GGC bought the shares from GC on March 31, 2016 	Statement of Income Items			
		Sales of goods or services	1,757	1,669	1,743
		Other income	1	5	5
		Statement of Financial Position Items			
		Trade accounts receivable – related parties	419	394	305
		Other accounts receivable – related parties	1	2	2
GC Glycol Company Limited (Former: TOC Glycol Company Limited) (Glycol))	<ul style="list-style-type: none"> • GC holds over 100% of the shares • Common Director: 1. Mr. Patiparn Sukorndhaman • Sales/purchase transactions of products and services 	Statement of Income Items			
		Sales of goods or services	-	-	4
		Purchases of goods or services	-	-	1
		Other expenses	10	10	11
		Statement of Financial Position Items			
Solution Creation Company Limited (SUN)	<ul style="list-style-type: none"> • GC holds 100% of the shares • Common Director: 1. Mr. Patiparn Sukorndhaman • Sales/purchase transactions of products 	Statement of Income Items			
		Sales of goods or services	17	26	33
		Statement of Financial Position Items			
		Trade accounts receivable – related parties	3	6	6
		Statement of Income Items			
PTT Phenol Company Limited (PPCL)	<ul style="list-style-type: none"> • GC holds 100% of the shares • Common Directors: 1. Mr. Narongsak Jivakanun 2. Mr. Patiparn Sukorndhaman 	Statement of Income Items			
		Other expenses	4	-	-
		Statement of Income Items			
Global Power Synergy Public Company Limited (GPSC)	<ul style="list-style-type: none"> • PTT holds 22.58%, GC holds 22.73% of the shares, and Thai Oil Power Company Limited (TOP holds 74% and PTT holds 26% of the shares) holds 20.79% of the shares • Common Director: 1. Mr. Supattanapong Punmeechaow 2. Mr. Payungsak Chartsutipol • Service transactions 	Statement of Income Items			
		Purchases of goods or services	483	492	520
		Statement of Financial Position Items			
		Trade accounts payable – related parties	42	89	101
		Statement of Income Items			
GC Maintenance and Engineering Company Limited (GCME) (Former: PTT Maintenance and Engineering Company Limited (PTTME))	<ul style="list-style-type: none"> • GC holds 60% of the shares and PTT holds 40% • Service transactions 	Statement of Income Items			
		Purchases of goods or services	18	17	20
		Statement of Financial Position Items			
		Trade account receivable – related parties	11	29	-
		Trade accounts payable – related parties	7	5	8
		Accounts payable (contractor) – related parties	4	7	3

Company	Relationship (As of December 31, 2018)	Connected Transaction	2016	2017	2018
(Million THB)					
GC Logistics Solutions Company Limited (GCL) (Former: PTT Polymer Logistics Company Limited (PTTPL))	<ul style="list-style-type: none"> GC holds 99% and SUN holds 1% of the shares Service transactions 	Statement of Income Items			
		Other expenses	6	9	14
		Statement of Financial Position Items			
		Other accounts payable – related parties	-	1	2
Thai Tank Terminal Company Limited (TTT)	<ul style="list-style-type: none"> GC holds 51% of the shares Service transactions 	Statement of Income Items			
		Sales of good of services	17	18	19
		Statement of Financial Position Items			
		Other accounts payable – related parties	-	-	1
PTT Digital Solutions Company Limited (PTT Digital)	<ul style="list-style-type: none"> GC holds 40%, PTT holds 20%, TOP holds 20%, and PTTEP holds 20% of the shares Service transactions 	Statements of Income Items			
		Other expenses	1	1	7
		Statement of Financial Position Items			
		Other accounts payable – related parties	-	-	1
Eastern Fluid Transport Company Limited (EFT)	<ul style="list-style-type: none"> GC holds 15% and TTT holds 15% of the shares Service transactions 	Statements of Income Items			
		Other income	-	-	1
		Purchases of goods or services	1	1	1
		Accounts payable (contractor) – related parties	-	-	3
NPC Safety and Environmental Service Company Limited (NPC S&E)	<ul style="list-style-type: none"> GC holds 100% of the shares Service transactions 	Statements of Income Items			
		Purchases of goods or services	9	8	9
		Other expense	-	-	3
		Statement of Financial Position Items			
Dhipaya Insurance Public Company Limited (DHIPAYA)	<ul style="list-style-type: none"> PTT holds 13.33% of the shares Service transactions 	Statements of Income Items			
		Purchases of goods or services	31	18	16
		Other expense	4	-	1
		Statement of Financial Position Items			
Thai Oil Public Company Limited (TOP)	<ul style="list-style-type: none"> PTT holds 48.03 % of the shares Sales/purchase transactions of products and services 	Statement of Income Items			
		Sales of goods or services	999	1,098	998
		Other income	2	2	5
		Statement of Financial Position Items			
		Trade accounts receivable – related parties	50	68	8
		Other accounts receivable – related parties	-	-	39
		Other accounts payable – related parties	-	8	-

Company	Relationship (As of December 31, 2018)	Connected Transaction	2016	2017	2018
(Million THB)					
PTT Oil and Retail Business Public Company Limited (PTTOR)	● PTT holds 100% of the shares	Statement of Income Items			
		Sales of goods or services	-	-	2,143
		Other income	-	-	5
	● Sales/purchase transactions of products and services	Purchases of goods or services	-	-	43
		Statement of Financial Position Items			
		Trade accounts receivable – related parties	-	-	262
		Trade accounts payable – related parties	-	-	(9)
		Accounts payable (contractor) – related parties	-	-	21
Energy Complex Company Limited (ENCO)	● PTT holds 50% and PTTEP holds 50% of the shares	Statements of Income Items			
		Other incomes	-	11	11
	● Service transactions	Statement of Financial Position Items			
		Other accounts payable – related parties	-	-	3
IRPC Public Company Limited (IRPC)	● PTT holds 48.05% of the shares	Statements of Income Items			
		Sales of goods or services	317	-	227
	● Sales/purchase transactions of products and services	Statement of Financial Position Items			
		Trade accounts payable – related parties	13	-	36
Business Services Alliance Company Limited (BSA)	● PTT holds 100% of the shares	Statements of Income Items			
		Purchases of goods or services	2	2	2
	● GC holds 25% of the preferred shares	Other expenses	5	7	8
		Statement of Financial Position Items			
TOP Solvent Company Limited (TOPSOLV)	● TOP (PTT holds 48.03% of the shares) holds 100% of the shares	Other accounts payable – related parties	2	2	3
		Statement of Income Items			
	● Sales/purchase transactions of products	Sales of goods or services	-	1	2
IRPC Polyol Company Limited (IRPCP)	● IRPC (PTT holds 48.05% of shares) holds 100% of the shares	Statement of Income Items			
		Sales of goods or services	-	-	1
TOP Solvent (Vietnam) LLC. (TOPSOLVV)	● Sales/purchase transactions of products and services	Statement of Income Items			
		Sales of goods or services	1	3	-
	● TOP (PTT holds 48.03% of the shares) holds 100% of the shares	Statement of Income Items			
	● Sales/purchase of products	Sales of goods or services	1	3	-

Company	Relationship (As of December 31, 2018)	Connected Transaction	2016	2017	2018
(Million THB)					
NPC S&E Security Guard Company Limited (NPCSG)	<ul style="list-style-type: none"> NPC S&E holds 100% of the shares Service transactions 	Statement of Income Items			
		Purchases of goods or services	2	4	4
		Other expenses	-	-	2
		Statement of Financial Position Items			
		Other accounts payable – related parties	-	-	1
Advanced Biochemical (Thailand) Company Limited (Advanced Biochemical)	<ul style="list-style-type: none"> VNT (GGC holds 25% of the shares) holds 100% of the shares Sales/purchase transactions of products and services 	Statement of Income Items			
		Sales of goods or services	159	282	466
		Statement of Financial Position Items			
		Trade accounts receivable – related parties	11	28	32
		Statement of Income Items			
Emery Oleochemicals (M) Sdn. Bhd.	<ul style="list-style-type: none"> GC holds 50% of the shares Sales/purchase transactions of products and services 	Purchase of goods or services	-	-	2

Necessity and Sensibility of Connected Transactions

GGC's connected transactions for the fiscal year ended on December 31, 2018, were undertaken in the course of normal businesses under general business terms, as reasonable people would do with contractual partners under similar circumstances on the Arm's Length Basis.

Measures or Approval Procedures for Connected Transactions

To engage in transactions with related parties, GGC is to review all transactions' suitability before such engagement and set prices and terms on an Arm's Length Basis.

When GGC or its subsidiaries have engaged in connected transactions applicable to SET and SEC announcements on information disclosure and actions by listed companies on related transactions, the Board of Directors is to strictly ensure such actions' conformance to the criteria, provisions, and procedures of these announcements together with disclosure of such transactions in the annual report and Form 56-1 to ensure transparency of related transactions and eliminate conflicts of interest.

If Directors wish to buy their assets or sell to GGC or do business with it—whether by themselves or on behalf of others—GGC regulations specify that such transactions must obtain an approval of the Board of Directors in order for such transactions to bind the Company. In any case, under GGC regulations, Directors with vested interests in asset purchase or sale, or in engaging with GGC, are not entitled to vote on such matters.

Apart from the required the Board of Directors Approved, if engagement by GGC or its subsidiaries in related transactions or actions result in the acquisition or sale of their significant assets, under the criteria of SEC announcements on related transactions of listed companies, or the acquisition or sale of assets of listed companies, GGC or its subsidiaries (or both) must conform to the rules and procedures under such announcements.

The Audit Committee must express its views on the measures or procedures for engagement in connected transactions. If they object to them, they must state their dissent.

The Company has control measures over any Connected Transactions in order to control, audit, and assure of random checks of actual transactions' conformance to contracts, policies, or terms. Any

transactions with related parties must be undertaken for regular businesses. To this end, the volumes of goods or feedstock traded or services received by GGC from such related parties must match its needs and business operation. In addition, the prices, as well as the giving or acceptance of services by related parties, must conform to contractual provisions and benefit the businesses of both GGC and the related parties without the siphoning of benefit or any irregular items. Moreover, the Internal Audit Department also checks to ensure that the Company has already set such Connected Transactions in alignment with Regulations and in accordance with Internal Audit Plan and report to the Audit Committee.

Policy or Trends of Connected Transactions

If GGC wishes to engage in transactions with related parties, related transactions, or connected transactions with parties of potential conflicts of interest or parties with vested interests, GGC must strictly conform to the above-mentioned policy, measures, and procedures. To this end, the Audit Committee is to review connected transactions' legality and conformance to SET requirements to ensure sensibility and the best interests of GGC.



Shareholding Structure

List of top 6 major shareholders (register book closing date on February 28, 2018)

Shareholders	Shares	%
1. PTT Global Chemical Public Company Limited	739,999,980	72.29
2. Muang Thai Life Assurance Public Company Limited	10,450,000	1.02
3. Ms. Pensri Ratanasuntrakul	9,400,000	0.91
4. Bangkok Life Assurance Public Company Limited	8,462,700	0.82
5. The Krung Thai Selective Equity Fund (KTSE)	7,273,600	0.71
6. Thai NVDR Company Limited	7,040,203	0.68

In practice, the major shareholder with significant influence on the establishment of GGC's policy and strategy is PTT Global Chemical Public Company Limited, which in total holds 72.29% in GGC.

Foreign Shareholders

- As of February 28, 2018, GGC had a total of ten foreign shareholders with a combined of 2,579,600 shares, or 0.25% of the paid-up capital.
- GGC's has foreign shareholding limitation as specified in Article 8 of the Articles of Association "GGC's shares can be transferred without any restriction, except in the case where the said transfer would result in more than thirty-seven (37) percent of the Company's total paid up shares being held by foreigners."

Dividend Payment Policy

Global Green Chemicals Public Company Limited

The Board of Directors Meeting No.7/2015 held on September 25, 2015, resolved that the dividend payment policy of GGC is to pay dividend at a rate of no less than 30% of net profit after tax and allocation to all reserve fund of GGC. Such dividend payment however is subject to the investment plan, other necessary, and appropriate considerations in the future.

Subsidiaries's Dividend Payment Policy

The dividend payment policy for GGC subsidiaries shall be considered and proposed by the boards of directors of each subsidiary for approval at the Annual General Meeting of each subsidiary. The dividend payment is based on the investment plans and other suitable considerations, such as the adequacy of cashflow of each subsidiary after deducting reserve funds in accordance with the laws.





Organization Structure

2



GGC Board of Directors



1

Mr. Supattana Pongmeechaow
Chairman



2

Prof. Dr. Kumchai Jongjakaporn
Chairman of Independent Directors /
Chairman of Audit Committee



3

ACM Songtam Chokkanapitak
Independent Director / Chairman of
Nomination and Remuneration
Committee



4

Ms. Kannika Ngamsopha
Independent Director /
Chairman of Risk Management
Committee / Director to
Audit Committee



5

Mr. Payungsak Chatsutipol
Independent Director / Chairman of
Corporate Governance and Sustainable
Development Committee



6

Mr. Apichart Jongskul
Independent Director /
Director to Audit Committee



7

Mr. Suphit Suwagul
Independent Director / Director to
Corporate Governance and Sustainable
Development Committee



8

Mr. Athavudhi Hirunburana
Director / Director to Nomination and
Remuneration Committee / Director to
Corporate Governance and Sustainable
Development Committee



9

Mr. Patiparn Sukorndhaman
Director / Director to Nomination and
Remuneration Committee



10

Mr. Narongsak Jivakanun
Director / Director to Risk Management
Committee



11

Mr. Sekxon Arttamangkura
Director / Director to Risk Management
Committee

1 Mr. Supattanapong Punmeechaow

Chairman

Age 59

Appointed : 17 February 2016
5 April 2018 (1st re-elected)

Education / Training :

- M.B.A., Chulalongkorn University
- B.Eng. (Chemical Engineering), Chulalongkorn University
- Advanced Management Program, INSEAD, France
- The National Defence Course (Class 50) and Joint State-Private Sector Course (Class 20), National Defence College
- Certificate in Top Executives in the Energy Education Program, Thailand Energy Academy (Class 4)
- Oxford Energy Seminar 2013, United Kingdom
- Corporate Governance Program for Directors and Executive of State Enterprises and Public Organizations (Class 12), 2014, King Prajadhipok's Institute, State Enterprise Policy Office, and Office of the Public Sector Development Commission
- The Rule of Law and Democracy Course (RLD) Class 3, 2015, College of the Constitutional Court
- Capital Market Academy Leadership Program, Class 23, Capital Market Academy
- Business Revolution and Innovation Network: BRAIN, Class 2/2018

Director Training :

- Director Certification Program (DPC) Class 131/2010, Thai Institute of Directors Association (IOD)
- Role of the Chairman Program (RCP) Class 30/2013, Thai Institute of Directors Association (IOD)

Board Member / Management

in Listed Companies – The Stock Exchange of Thailand : 4

- Chairman, Global Green Chemicals Public Company Limited
- Senior Executive Vice President, PTT Public Company Limited
- Director / Director to Risk Management Committee / President and Chief Executive Officer, PTT Global Chemical Public Company Limited
- Director / Director to Risk Management Committee, Global Power Synergy Public Company Limited

Board Member / Management in Non-listed Companies : 1

- Director, PTTGC International Private Limited

Positions in Other Organizations / Institutions : 9

- Honorary Member of the Public Sector Development Commission (Management)
- President, Chulalongkorn Engineering Alumni Association
- Director, Thai Institute of Directors Association (IOD)
- Vice Chairman, The Federation of Thai Industries
- Vice President, Thailand Swimming Association
- Trustee, Petroleum Institute of Thailand
- Vice Chairman, PIN and PLearn Foundation
- Council Member, Kamnoetvidya Science Academy
- Honorary Member of Vidyasirimedhi Institute Council

Work Experience (5 Years) :

- 2015 – 2018 Director, Thai Listed Companies Association
- 2014 – 2017 Vice Chairman / Member of the Nomination and Remuneration Committee, Vinythai Public Company Limited
- 2015 – 2016 Chairman, Thai Oleochemicals Company Limited
- 2015 – 2016 Chairman, Thai Fatty Alcohols Company Limited
- 2014 – 2016 Director, PTT Chemical International (Asia Pacific ROH) Limited
- 2014 – 2015 Chairman, Sport Services Alliance Company Limited
- 2013 – 2014 Director / Member of Nomination and Remuneration Committee, Bangchak Petroleum Public Company Limited
- 2012 – 2014 Executive Vice President, Corporate Strategy, PTT Public Company Limited

Shareholding : 50,000 Shares (0.004884% of total shares)
as of December 31, 2018

Relations among Family with Other Directors, Management, Major Shareholder of The Company or Subsidiaries : None

2 Prof. Dr. Kumchai Jongjakapun

Chairman of Independent Director /

Chairman of Audit Committee

Age 58

Appointed : 17 February 2016

Education / Training :

- Ph.D., King's College London (KCL), University of London, United Kingdom
- LL.M. in International Business Law (with Merit), University College London (UCL), University of London, United Kingdom
- LL.B. (2nd Class Honors), Thammasat University
- B.A. (Political Science), Ramkhamheang University
- Barrister-at-law, The Thai Bar Under the Royal Patronage
- The National Defence Course (Class 50) and Joint State-Private Sector Course (Class 20), National Defence College
- Juridical Executives Program (Class 15), Juridical Training Institute
- Capital Market Academy Leadership Program (Class 9), Capital Market Academy
- Corporate Governance Program for Directors and Executive of State Enterprises and Public Organizations (Class 12), King Prajadhipok's Institute, State Enterprise Policy Office, and Office of the Public Sector Development Commission

Director Training Program :

- Role of Chairman Program (RCP) Class 34/2014, Thai Institute of Directors Association (IOD)
- Audit Committee Program (ACP) Class 38/2012, Thai Institute of Directors Association (IOD)
- Director Certification Program (DCP) Class 128/2010, Thai Institute of Directors Association (IOD)

Board Member / Management

in Listed Companies – The Stock Exchange of Thailand : 1

- Independent Director / Chairman of Audit Committee, Global Green Chemicals Public Company Limited

Board Member / Management in Non-listed Companies : None

Positions in Other Organizations / Institutions : 3

- Chairman, Pearl S. Buck Foundation Thailand
- Legal expert, The Stock Exchange of Thailand (SET)
- Member of the Committee of Council of State, Office of the Council of State

Work Experience (5 Years) :

- 2015 – 2016 Director, Thai Oleochemicals Public Company Limited
- 2014 – 2015 Expert Director, Securities and Exchange Commission
- 2011 – 2014 Chairman, Audit Committee, Expressway Authority of Thailand

Shareholding : 15,000 Shares in spouse's name
(0.0014653% of total shares) as of December 31, 2018

Relations among Family with Other Directors, Management, Major Shareholder of The Company or Subsidiaries : None

3 ACM Songtam Chokkanapitag

Independent Director / Chairman of Nomination and Remuneration Committee Age 64

Appointed : 17 February 2016
21 March 2017 (1st re-elected)

Education / Training :

- Air Command and Staff College (Class 35), Air War College
- Royal Thai Air Force Academy (Class 21)
- Armed Forces Academies Preparatory School (Class 14)
- The National Defence Course (Class 50), National Defence College

Director Training Program :

- Director Certification Program (DCP) Class 227/2016, Thai Institute of Directors (IOD)

Board Member / Management

in Listed Companies – The Stock Exchange of Thailand : 1

- Independent Director, Director to of the Nomination and Remuneration Committee, Global Green Chemicals Public Company Limited

Board Member / Management in Non-listed Companies : None

Positions in Other Organizations / Institutions : 1

- Member, The National Legislative Assembly

Work Experience (5 Years) :

- 2015 – 2016 Director, Thai Oleochemicals Company Limited
- 2013 – 2016 Deputy Permanent Secretary for Defence, Office of the Permanent Secretary of Defence
- 2012 Assistant Commander-in-Chief, Royal Thai Air Force

Shareholding : None

Relations among Family with Other Directors, Management, Major Shareholder of The Company or Subsidiaries : None

4 Ms. Kannika Ngamsopee

Independent Director / Director to Audit Committee / Chairman of Risk Management Committee Age 62

Appointed : 17 February 2016
21 March 2017 (1st re-elected)

Education / Training :

- M.B.A., Sasin Graduate Institute of Business Administration, Chulalongkorn University
- M.Acc. (Accounting), Thammasat University
- LL.B. (Law), Thammasat University
- B.B.A (Accounting) 2nd Class Honors, Thammasat University
- Capital Market Academy Leadership Program, Class 3, Capital Market Academy
- The National Defence Course (Class 52) National Defence College, Administration of Public and Private Management Program, Class 1, Royal Thai Police
- Advanced Strategic Management, IMD, Swiss Confederation (2012)
- Certified Public Accountant Licence No. 3156
- Certificate of International Trade Law (Class 1), The Thai Bar under the Royal Patronage

Director Training Program :

- Director Certification Program (DCP) Class 21/2002, Thai Institute of Directors Association (IOD)

Board Member / Management

in Listed Companies – The Stock Exchange of Thailand : 3

- Independent Director / Director to Audit Committee / Chairman, Risk Management Committee, Global Green Chemicals Public Company Limited
- Independent Director / Chairman of Audit Committee / Director to Risk Management Committee, Scan Inter Public Company Limited
- Independent Director / Chairman of Audit Committee, Thonburi Healthcare Group Public Company Limited

Board Member / Management in Non-listed Companies : 2

- Independent Director, Bumrungruang Plaza Company Limited (an affiliate of Thonburi Healthcare Group)
- Independent Director, Premier Home Healthcare Company Limited (an affiliate of Thonburi Healthcare Group)

Positions in Other Organizations / Institutions : 7

- Member, Equitable Education Fund Finance and Budget Sub-Committee
- Member, Audit and Good Corporate Governance Sub-Committee, Arbitration Institute
- Director, Ar Yu International Hospital, Republic of the Union of Myanmar
- Sub-Committee Member, Audit and Assessment of Public Sector Administrative Work, Office of Public Sector Development Commission
- Member, Asset Management Committee, Vajiravudh College
- Member, Audit Committee, Social Security Office
- Honorary, Financial Institutions Policy Committee, Bank of Thailand

Work Experience (5 Years) :

- 2017 Independent Director / Director to Audit Committee / Director to Corporate Governance and CSR Committee, Thai Credit Guarantee Corporation
- 2016 – 2017 Advisor, Internal Control Improvement, Siam Commercial Bank Public Company Limited
- 2015 – 2016 First Executive Vice President, Head of Audit Group, Siam Commercial Bank Public Company Limited
- 2013 – 2017 Director / Director to Audit Committee, Sukhumvit Asset Management Company Limited
- 2015 – 2016 Director / Director to Audit Committee, Thai Oleochemicals Company Limited
- 2011 – 2015 First Executive Vice President, Audit and Compliance Office, Siam Commercial Bank Public Company Limited
- 2013 – 2015 Director / Chairman of Risk Management Committee, National Credit Bureau Company Limited
- 2009 – 2015 Director, WenaSiam Bank, Vietnam
- 2011 – 2014 Director / Treasurer, Federation of Accounting Professions

Shareholding : 20,000 Shares (0.001954% of total shares)
as of December 31, 2018

Relations among Family with Other Directors, Management, Major Shareholder of The Company or Subsidiaries : None

5 Mr. Payungsak Chartsutipol

Independent Director / Chairman of Corporate Governance and Sustainable Development Committee

Age 66

Appointed : 6 January 2017
5 April 2018 (1st re-elected)

Education / Training :

- Honorary Doctorate Degree in Engineering (Manufacturing Engineering), Suranaree University of Technology
- Honorary Doctorate Degree in Philosophy, Organization Development Administration, Chaopraya University
- B.Eng. (Electrical Engineering), Chulalongkorn University
- Certificate of Management Development Program, Northwestern University, U.S.A.
- Top Executives in the Energy Education Program (Class 1), Thailand Energy Academy
- Phumpalung Phandin for Top Executives Program (Class 1) 2012, Chulalongkorn University
- Administrative Justice Program for Top Executives (Class 2), Administrative Court Office
- Capital Market Academy Leadership Program (Class 11), Capital Market Academy
- Top Executives Program in Commerce and Trade (Class 2), Commerce Academy, University of the Thai Chamber of Commerce

Director Training :

- Director Accreditation Program (DAP SCC/2004), Thai Institute of Directors Association (IOD)

Board Member / Management

in Listed Companies – The Stock Exchange of Thailand : 2

- Independent Director / Chairman of Corporate Governance and Sustainable Development Committee, Global Green Chemicals Public Company Limited
- Independent Director / Chairman of Audit Committee / Chairman of Risk Management Committee, Global Power Synergy Public Company Limited

Board Member / Management in Non-listed Companies : 4

- Director, Siam United Steel (1995) Company Limited
- Chairman, Siam City Capital Public Company Limited
- Director, Linde (Thailand) Public Company Limited
- Director, Sapthip Company Limited

Positions in Other Organizations / Institutions : None

Work Experience (5 Years) :

- 2012 – 2014 Commission Member, Office of Insurance Commission
- 2012 – 2013 Chairman, Corporate Governance and Social Responsibility Committee, Krungthai Bank Public Company Limited
- 2011 – 2015 Chairman / Expert Director, Board of National Catastrophe Insurance Fund Committee
- 2011 – 2014 Chairman, Board of Executive Directors, Krungthai Bank Public Company Limited
- 2010 – 2014 Chairman, The Federation of Thai Industries
- 2010 – 2014 Council Member, Suranaree University of Technology
- 2010 – 2014 Director, Board of Investment
- 2007 – 2014 Director, Board of Trustees, Sirindhorn International Institute of Technology, Thammasat University

Shareholding : 50,000 Shares (0.004884% of total shares)
as of December 31, 2018

Relations among Family with Other Directors, Management, Major Shareholder of The Company or Subsidiaries : None

6 Mr. Apichart Jongskul

Independent Director / Director to Audit Committee

Age 63

Appointed : 6 January 2017
5 April 2018 (1st re-elected)

Education / Training :

- Honorary Doctorate Degree in Science (Geosocial-Based Sustainable Development), Maejo University
- M.Sc. (Environmental Management Technology), Mahidol University
- B.Sc. (Physics), Chulalongkorn University
- National Defence Course (Class 50), National Defence College
- Capital Market Academy Leadership Program (Class 17), Capital Market Academy

Director Training :

- Director Certification Program (DCP) Class 109/2008, Thai Institute of Directors Association (IOD)
- Audit Committee Program (ACP) Class 30/2010, Thai Institute of Directors Association (IOD)

Board Member / Management

in Listed Companies – The Stock Exchange of Thailand : 1

- Independent Director / Director to Audit Committee, Global Green Chemicals Public Company Limited

Board Member / Management in Non-listed Companies : None

Positions in Other Organizations / Institutions : 1

- 2015 Advisor / Deputy Secretary, Chaipattana Foundation

Work Experience (5 Years) :

- 2016 Member, Integrated Forest Resources Restoration Committee, National Reform Steering Assembly (NRSA)
- 2016 Advisor to Sub-committee on Agricultural Economic Reform, National Reform Steering Assembly (NRSA)
- 2009 – 2016 Member, Sub-committee (Administration), Agricultural Futures Trading Commission
- 2015 Member, Sub-Committee on Broadcast Radio, Television and Telecommunications, National Reform Steering Assembly (NRSA)
- 2015 Member, Committee on Mass Communication Reform, National Reform Steering Assembly (NRSA)
- 2015 Member, National Reform Steering Assembly (NRSA)
- 2014 – 2015 Chairman, Operating Committee on Cooperatives, Land Development Department
- 2014 – 2015 Chairman, Dairy Farming Promotion Organization of Thailand
- 2013 – 2015 Honorary Member, National Science and Technology Development Committee
- 2013 – 2015 Director-General, Land Development Department
- 2014 – 2015 Advisor, Soil and Fertilizer Association of Thailand
- 2014 – 2015 Chairman, Soil and Water Reservation Association of Thailand
- 2010 – 2013 Vice President, Agricultural Economics Association of Thailand
- 2009 – 2013 Chairman of Audit Committee, Export and Import Bank of Thailand
- 2009 – 2013 Secretary, Natural Rubber Policy Committee
- 2008 – 2013 Secretary, Thailand Oil Palm Board
- 2008 – 2013 Secretary, Oily Plant and Vegetable Oil Policy Committee
- 2008 – 2013 Secretary, National Pineapple Policy Committee
- 2007 – 2013 Secretary, Office of Agricultural Economics
- 2007 – 2013 Secretary, Agricultural and Cooperatives Development Policy and Planning Committee
- 2007 – 2013 Director, Dairy Farming Promotion Organization of Thailand
- 2007 – 2013 Director, Export and Import Bank of Thailand
- 2008 – 2013 Spokesperson, Ministry of Agriculture and Cooperatives
- 2008 – 2013 Governor (Alternate), Governor Council, Common Fund for Commodity

Shareholding : None

Relations among Family with Other Directors, Management, Major Shareholder of The Company or Subsidiaries : None

7 Mr. Suphit Suwagul

Independent Director / Director to Corporate Governance and Sustainable Development Committee

Age 62

Appointed : 1 January 2018

Education / Training :

- Master's Degree, Development Economics, National Institute of Development Administration
- B.Econ., Thammasat University

Director Training :

- Ethical Leadership Program (ELP) 13/2018, Thai Institute of Directors Association (IOD)
- Director Certification Program (DCP) 177/2013, Thai Institute of Directors Association (IOD)

Board Member / Management

in Listed Companies – The Stock Exchange of Thailand : 1

- Director / Director to Corporate Governance and Sustainable Development Committee, Global Green Chemicals Public Company Limited

Board Member / Management in Non-listed Companies : None

Positions in Other Organizations / Institutions : None

Work Experience (5 Years) :

- 2010 – 2016 Chairman, Business Services Alliance Company Limited (BSA)
- 2013 – 2016 Director, PTT Green Energy Company Limited (PTTGE)
- 2010 – 2016 Director, Energy Complex Company Limited (EnCo)
- 2010 – 2016 Director, Sustainable Energy Foundation
- 2014 – 2016 Managing Director, Energy Complex Company Limited (EnCo)
- 2012 – 2014 Executive Vice President, Organization Effectiveness, PTT Public Company Limited
- 2010 – 2013 Director, PTT Digital Solution Company Limited

Shareholding : None

Relations among Family with Other Directors, Management,

Major Shareholder of The Company or Subsidiaries : None

8 Mr. Athavudhi Hirunburana

Director / Director to Nomination and Remuneration Committee / Director to Corporate Governance and Sustainable Development Committee

Age 63

Appointed: 17 February 2016
5 April 2018 (1st re-elected)

Education / Training :

- M.Sc. (Mechanical Engineering), Manhattan College, New York, U.S.A.
- B.Sc. (Mechanical Engineering), New York Institute of Technology, U.S.A.
- Senior Executive Program 2007, Stanford University, U.S.A.
- Senior Executive Program, Sasin Graduate Institute of Business Administration, Chulalongkorn University
- Executive Program for Senior Management 2005, Fiscal Policy Research Institute, Ministry of Finance
- Managing People for HR Executives, Thammasat University

Director Training :

- Director Certification Program (DCP) Class 79/2006, Thai Institute of Directors Association (IOD)

Board Member / Management

in Listed Companies – The Stock Exchange of Thailand : 3

- Director / Director to Nomination and Remuneration Committee / Director to Corporate Governance and Sustainable Development Committee, Global Green Chemicals Public Company Limited
- Advisor, PTT Global Chemical Public Company Limited
- Chairman, Selic Corp Public Company Limited

Board Member / Management in Non-listed Companies : 1

- Director, Insee Ecocycle Company Limited

Positions in Other Organizations / Institutions : 2

- Advisor, Plastics Institute of Thailand
- Executive Board Member / Chairman of International Relations Committee, The Federation of Thai Industries

Work Experience (5 Years) :

- 2015 – 2016 Director, Thai Oleochemicals Company Limited
- 2013 – 2015 Chief Operating Officer, Downstream Petrochemical Business, PTT Global Chemical Public Company Limited
- 2013 – 2015 Chairman, Thai Styrenics Company Limited
- 2014 – 2015 Chairman, Thai Oleochemicals Company Limited
- 2013 – 2016 Chairman, TOC Glycol Company Limited
- 2014 – 2015 Chairman, Thai Fatty Alcohols Company Limited
- 2012 – 2015 Director, PTT Polymer Marketing Company Limited
- 2013 – 2014 Chairman, PTTGC International (USA) Inc.
- 2013 – 2014 Member Representative to the Governance Board, Nature Works LLC
- 2013 Director, Bangkok Polyethylene Public Company Limited
- 2013 Director, PTT Polyethylene Company Limited
- 2011 – 2013 Executive Vice President, Polymers Business Unit, PTT Global Chemical Public Company Limited

Shareholding : None

Relations among Family with Other Directors, Management,

Major Shareholder of The Company or Subsidiaries : None

9 Mr. Patiparn Sukorndhaman

Director / Director to Nomination and Remuneration Committee Age 57

Appointed : 17 February 2016
21 March 2017 (1st re-elected)

Education / Training :

- M.B.A. (Finance), The American University, U.S.A.
- B.A. Political Science (Public Administration – Public Finance), 2nd Class Honors, Chulalongkorn University
- Advanced Certificate Course in Public Administration and Law for Executives (Class 8), King Prajadhipok's Institute
- Executive Program for Senior Management 2009 (Ex-PSM Class 5), Fiscal Policy Research Institute Foundation
- GE: PTT Executive Program 2012, GE Institute, U.S.A.
- Breakthrough Program for Senior Executives 2014, IMD, Executive Development Services, Swiss Confederation
- Leadership Development Program (LDP III) 2014, PTT Leadership and Learning Institute
- National Defence Course (Class 59), National Defence College

Director Training :

- Director Certification Program (DCP) Class 73/2006, Thai Institute of Directors Association (IOD)

Board Member / Management

in Listed Companies – The Stock Exchange of Thailand : 2

- Director / Director to Nomination and Remuneration Committee, Global Green Chemicals Public Company Limited
- Chief Operation Officer, Downstream Petrochemical Business, PTT Global Chemical Public Company Limited

Board Member / Management in Non-listed Companies : 9

- Chairman, GC Oxyren Company Limited
- Chairman, GC Polyols Company Limited
- Chairman, GC Styrenics Company Limited
- Chairman, GC Glycol Company Limited
- Chairman, Solution Creation Company Limited
- Chairman, GC Marketing Solution Company Limited
- Vice Chairman, HMC Polymers Company Limited
- Director, PTT Phenol Company Limited
- Director, PTT Asahi Chemical Company Limited

Positions in Other Organizations / Institutions : None

Work Experience (5 Years) :

- 2015 – 2017 Director / Director to Nomination and Remuneration Committee, Global Power Synergy Company Limited
- 2009 – 2016 Director, Thai Fatty Alcohols Company Limited
- 2011 – 2015 Executive Vice President, Finance & Accounting, PTT Global Chemical Public Company Limited
- 2012 – 2015 Director, PTT Chemical International Private Limited
- 2011 – 2015 Director, PTT ICT Solutions Company Limited
- 2009 – 2015 Director, Thai Oleochemicals Company Limited
- 2009 – 2014 Director, Bio Creation Company Limited

Shareholding : 23,000 Shares (0.002247 of total shares)
as of December 31, 2018

Relations among Family with Other Directors, Management, Major Shareholder of The Company or Subsidiaries : None

10 Mr. Narongsak Jivakanun

Director / Director to Risk Management Committee Age 49

Appointed : 17 February 2016

Education / Training :

- M.Sc. (Chemical Engineering), Oregon State University, U.S.A.
- B.Eng. (Chemical Engineering), Chulalongkorn University
- TLCA Leadership Development Program (LDP) 2013 (Class 1), Thai Listed Companies Association (TLCA) and International Institute for Management Development (IMD)
- Top Executives in the Energy Education Program (Class 8), Thailand Energy Academy

Director Training :

- Director Certification Program (DCP) Class 165/2012, Thai Institute of Directors Association (IOD)

Board Member / Management

in Listed Companies – The Stock Exchange of Thailand : 3

- Deputy Chairman / Director to Nomination and Remuneration Committee, Vinythai Public Company Limited
- Executive Vice President – Corporate Strategy, PTT Global Chemical Public Company Limited
- Director / Director to Risk Management Committee, Global Green Chemical Company Limited

Board Member / Management in Non-listed Companies : 8

- Chairman, GC Ventures America Corporation
- Chairman, GC Ventures Company Limited
- Chairman, GC Estate Company Limited
- Director, GC Polyols Company Limited
- Director, PTT Phenol Company Limited
- Director, PTTGC America Corporation
- Director, PTTGC America LLC
- Director, Sermkij Textile Company Limited

Positions in Other Organizations / Institutions : None

Work Experience (5 Years) :

- 2017 – 2018 Chairman, PTT MCC Biochem Company Limited
- 2016 – 2017 Director, PTT Digital Solution Company Limited
- 2016 – 2017 Director, PTT Chemical International Private Limited
- 2016 – 2017 Director, PTT Chemical International (Asia Pacific ROH) Limited
- 2011 – 2017 Director / Director to Remuneration Committee, Myriant Corporation
- 2010 – 2016 Chief Executive Officer, PTT Chemical International Private Limited
- 2010 – 2016 Chief Executive Officer, PTT Chemical International (Asia Pacific ROH) Limited
- 2016 Senior Vice President, reporting to Senior Executive Vice President, Corporate Strategy PTT Global Chemical Public Company Limited
- 2015 – 2016 Director, Emery Oleochemicals (M) Sdn. Bhd.
- 2015 – 2016 Director, Emery Specialty Chemicals Sdn. Bhd.
- 2014 – 2016 Senior Vice President, attached to the Office of the International Business Operations Senior Executive Vice President, PTT Global Chemical Public Company Limited
- 2010 – 2016 Director, Bio Spectrum Company Limited
- 2012 – 2015 Director, Vencorex Holding SAS
- 2011 – 2015 Director, PTTGC International (Netherlands) B.V.
- 2011 – 2014 Director, Bio Creation Company Limited

Shareholding : 15,000 Shares (0.001465 of total shares)
as of December 31, 2018

Relations among Family with Other Directors, Management, Major Shareholder of The Company or Subsidiaries : None

11 Mr. Sekxon Arttamangkura

Director / Director to Risk Management Committee

Age 60

Appointed : 1 August 2018

Education / Training :

- B.Eng. (Electrical Engineering), Kasetsart University

Director Training :

- Director Certification Program (DCP) Class 229/2016, Thai Institute of Directors Association (IOD)

Board Member / Management

in Listed Companies – The Stock Exchange of Thailand : 2

- Director and Managing Director / Director to Risk Management Committee, Global Green Chemicals Public Company Limited
- Senior Vice President, PTT Global Chemicals Public Company Limited

Board Member / Management in Non-listed Companies : 4

- Chairman, Thai Fatty Alcohols Company Limited
- Chairman, GGC Biochemicals Company Limited
- Chairman, PTT MCC Biochem Company Limited
- Director, Thai Ethoxylate Company Limited

Work Experience (5 Years) :

- 2015 – July 2018 Director and Managing Director, NPC Safety & Environmental Service Company Limited Chairman and Managing Director, Security Service NPC S&E Company Limited
- 2011 – 2015 Vice President, Operation, Ethane Cracker Plant, PTT Global Chemical Public Company Limited

Shareholding : None

Relations among Family with Other Directors, Management,

Major Shareholder of The Company or Subsidiaries : None



GGC Executives



Mr. Sekxon Arttamangkura

Managing Director

Age 60

Appointed : 1 August 2018

Education / Training :

- B.Eng. (Electrical Engineering), Kasetsart University

Director Training :

- Director Certification Program (DCP) Class 229/2016, Thai Institute of Directors Association (IOD)

Board Member / Management in Listed Companies – The Stock Exchange of Thailand : 2

- Director and Managing Director / Member, Risk Management Committee, Global Green Chemicals Public Company Limited
- Executive Vice President, PTT Global Chemicals Public Company Limited

Board Member / Management in Non-listed Companies : 4

- Chairman, Thai Fatty Alcohols Company Limited
- Chairman, GGC Biochemicals Company Limited
- Chairman, PTT MCC Biochem Company Limited
- Director, Thai Ethoxylate Company Limited

Work Experience (5 Years) :

- 2015 – July 2018 Director and Managing Director, NPC Safety & Environmental Service Company Limited
Chairman and Managing Director, Security Service, NPC S&E Company Limited
- 2011 – 2015 Vice President, Operation, Ethane Cracker Plant, PTT Global Chemical Public Company Limited

Shareholding : None

Relations among Family with Other Directors, Management, Major Shareholder of The Company or Subsidiaries : None



Ms. Uramanee Puttong

**Vice President,
Corporate Affairs and Corporate Secretary**
Age 55

Appointed : 1 January 2018

Education / Training :

- M.A. (Communication), Ramkhamhaeng University
- B.A. (Management), Valaya Alongkorn Rajabhat University under the Royal Patronage
- Director Accreditation Program (DAP) Class 115/2018, Thai Institute of Directors Association (IOD)
- Advances for Corporate Secretaries, Class 2/2017, Thai Institute of Directors Association (IOD)
- Company Secretary Program (CSP 24/2007), Thai Institute of Directors Association (IOD)
- Board Reporting Program (BRP 15/2014), Thai Institute of Directors Association (IOD)
- Anti-Corruption: The Practical Guide (ACPG 4/2013), Thai Institute of Directors Association (IOD)
- Modern Public Relations Business Plan (MPR 33), Public Relations Society of Thailand

Board Member / Management

in Listed Companies – The Stock Exchange of Thailand : 1

- Vice President, Corporate Affairs and Corporate Secretary, Global Green Chemical Public Company Limited

Board Member / Management in Non-listed Companies : None

Work Experience (5 Years) :

- 2011 – 2017 Division Manager, Corporate Governance and Corporate Secretary, PTT Global Chemical Public Company Limited

Shareholding : 1,000 Shares (0.0000976 of total shares)
as of December 31, 2018

**Relations among Family with Other Directors, Management,
Major Shareholder of The Company or Subsidiaries : None**



**Ms. Kunakorn
Witthayapaisarn**

Vice President, Internal Audit
Age 52

Appointed : 1 January 2018

Education / Training :

- B.A. (Accounting), Thammasat University
- Certified Internal Auditor, Institute of Internal Auditors, U.S.A.
- Accreditation in Quality Assessment, Institute of Internal Auditors, U.S.A.

Board Member / Management

in Listed Companies – The Stock Exchange of Thailand : 1

- Vice President, Internal Audit,
Global Green Chemicals Public Company Limited

Board Member / Management in Non-listed Companies : None

Work Experience (5 Years) :

- 2015 – 2018 Member, Audit Committee,
National Science Technology and Innovation Policy Office
- 1992 – 2017 Senior Assistant Director, Internal Audit,
Securities and Exchange Commission

Shareholding : None

**Relations among Family with Other Directors, Management,
Major Shareholder of The Company or Subsidiaries : None**



Ms. Rattiya Chandavasu

**Vice President (Acting), Marketing,
Commercial and Supply**
Age 41

Appointed : 12 July 2018

Education / Training :

- Diploma in Laboratory Chemistry, Chulalongkorn University
- M.Sc. (Chemical Technology), Chulalongkorn University
- B.Sc. (Petroleum Technology), Petroleum and Petrochemical College, Chulalongkorn University

Board Member / Management in Listed

Companies – The Stock Exchange of Thailand : 1

- Acting Vice President, Marketing, Commercial and Supply, Global Green Chemicals Public Company Limited

Board Member / Management in Non-listed Companies : None

Work Experience (5 Years) :

- Vice President, International Business Development, PTT Global Chemical Public Company Limited
- Division Manager, International Business Development, PTT Global Chemical Public Company Limited

Shareholding : None

**Relations among Family with Other Directors, Management,
Major Shareholder of The Company or Subsidiaries :** None



**Mr. Apichart
Kullavanijaya**

Vice President, Corporate Strategy
Age 44

Appointed : 1 June 2016

Education / Training :

- Eng. (Industrial Engineering), Kasetsart University
- Petrochemicals Market and Forecast
- Joint Venture Development Framework
- Enterprise Risk Management (ERM)
- Internal Audit ISO 14001 and Environment Auditing (U.K.)

Board Member / Management in Listed

Companies – The Stock Exchange of Thailand : 1

- Vice President, Corporate Strategy, Global Green Chemicals Public Company Limited

Board Member / Management in Non-listed Companies : 2

- Director and Managing Director, Thai Fatty Alcohols Company Limited
- Director and Managing Director, GGC Biochemicals Company Limited

Work Experience (5 Years) :

- 2011 – 2016 Division Manager, Portfolio Management, PTT Global Chemical Public Company Limited
- 2013 – 2014 Acting Division Manager, Subsidiaries Management, PTT Global Chemical Public Company Limited

Shareholding : None

**Relations among Family with Other Directors, Management,
Major Shareholder of The Company or Subsidiaries :** None

**Ms. Sirintra
Chatchawanpreecha**



**Vice President, Green Technology Center
and Logistic Management**
Age 41

Appointed : 1 October 2015

Education / Training :

- M.Eng. (Chemical Engineering),
King Mongkut's University of Technology Thonburi
- B.Eng. (Chemical Engineering),
King Mongkut's University of Technology Thonburi

Board Member / Management

in Listed Companies – The Stock Exchange of Thailand : 1

- Vice President, Green Technology Center & Logistic Management,
Global Green Chemicals Public Company Limited

Board Member / Management in Non-listed Companies : None

Work Experience (5 Years) :

- 2015 – 2018 Vice President, Technology, Engineering and Maintenance
- 2011 – 2015 Division Manager, Plant Techniques,
Biochemicals Business Group,
Thai Oleochemicals Company Limited

Shareholding : None

**Relations among Family with Other Directors, Management,
Major Shareholder of The Company or Subsidiaries :** None

**Ms. Wanlapa
Sophiskhaunkhant**



**Vice President, Corporate Finance
and Accounting**
Age 39

Appointed : 24 August 2015

Education / Training :

- M.Eng. (Chemical Engineering),
King Mongkut's University of Technology Thonburi
- B.Eng. (Chemical Engineering),
King Mongkut's Institute of Technology Ladkrabang
- CFO Orientation Course, Stock Exchange of Thailand
- Strategic CFO Course, Stock Exchange of Thailand

Board Member / Management

in Listed Companies – The Stock Exchange of Thailand : 1

- Vice President, Corporate Finance and Accounting,
Global Green Chemicals Public Company Limited

Board Member / Management in Non-listed Companies : 3

- Director, GGC Biochemicals Company Limited
- Director, Thai Fatty Alcohols Company Limited
- Director, Thai Eastern Top Seeds Oil Company Limited

Work Experience (5 Years) :

- 2014 – 2015 Division Manager, Strategic Partnership
and Business Administration, International Business
Administration Unit,
PTT Global Chemical Public Company Limited
- 2012 – 2014 Specialist, Strategy and Business Development,
Specialty Chemicals Business Unit,
PTT Global Chemical Public Company Limited
- 2012 – 2013 Senior Process Engineer, Process Technology Unit,
PTT Aromatics and Refining Public Company Limited

Shareholding : None

**Relations among Family with Other Directors, Management,
Major Shareholder of The Company or Subsidiaries :** None



Mr. Sayan Saesue

Vice President, Operations
Age 47

Appointed : 1 October 2015

Education / Training :

- M.Eng. (Industrial Engineering), King Mongkut's University of Technology North Bangkok
- B.Eng. (Control Systems and Instrumentation Engineering), King Mongkut's Institute of Technology Ladkrabang

Board Member / Management

in Listed Companies – The Stock Exchange of Thailand : 1

- Vice President, Operations, Global Green Chemicals Company Limited

Board Member / Management in Non-listed Companies : None

Work Experience (5 Years) :

- 2011 – 2015 Division Manager, Plant Operations, Thai Oleochemicals Company Limited

Shareholding : None

Relations among Family with Other Directors, Management, Major Shareholder of The Company or Subsidiaries : None



Mr. Chanasiri Vanit

Vice President, Engineering and Maintenance / Project Management
Age 48

Appointed : 1 October 2016

Education / Training :

- M.A. (Economics), Kasetsart University
- B.Eng. (Chemical Engineering), Kasetsart University

Board Member / Management

in Listed Companies – The Stock Exchange of Thailand :1

- Vice President, Engineering and Maintenance / Project Management

Board Member / Management in Non-listed Companies : 1

- Director, Thai Eastern Top Seeds Oil Company Limited

Work Experience (5 Years) :

- 2016 – 2018 Vice President, Projects, Global Green Chemicals Public Company Limited
- 2016 – 2018 Acting Division Manager, Quality, Safety, Occupational Health and Environment, Global Green Chemicals Public Company Limited
- 2015 – 2016 Division Manager, Quality, Safety, Occupational Health and Environment, Global Green Chemicals Public Company Limited
- 2014 – 2015 Section Head, Plant Assets, Thai Oleochemicals Company Limited
- 2011 – 2014 Section Head, Plant Operation, Thai Oleochemicals Company Limited

Shareholding : 33,000 Shares (0.00322 of total shares) as of December 31, 2018

Relations among Family with Other Directors, Management, Major Shareholder of The Company or Subsidiaries : None



Ms. Sunanta Promroj

Vice President, HR and Corporate Support
Age 60

Appointed : 24 August 2015 – 15 December 2018

Education / Training :

- B.Ed. (Social Sciences), Sukhothai Thammathirat Open University

Board Member / Management

in Listed Companies – The Stock Exchange of Thailand : 1

- Vice President, HR and Corporate Support,
Global Green Chemicals Public Company Limited

Board Member / Management in Non-listed Companies : None

Work Experience (5 Years) :

- 2013 – 2015 Division Manager, Human Resources,
PTT Global Chemical Public Company Limited
- 2008 – 2012 Specialist, Human Resources,
PTT Global Chemical Public Company Limited

Shareholding : None

**Relations among Family with Other Directors, Management,
Major Shareholder of The Company or Subsidiaries : None**



**Ms. Narungsi
Kaiwikaigumnurd**

Vice President, HR and Corporate Support
Age 51

Appointed : 15 December 2018

Education / Training :

- B.A. (English Literature), Srinakharinwirot University
- M.P.A. (Public Administration),
National Institute of Development Administration

Board Member / Management

in Listed Companies – The Stock Exchange of Thailand : 1

- Vice President, HR and Corporate Support,
Global Green Chemicals Public Company Limited

Board Member / Management in Non-listed Companies : None

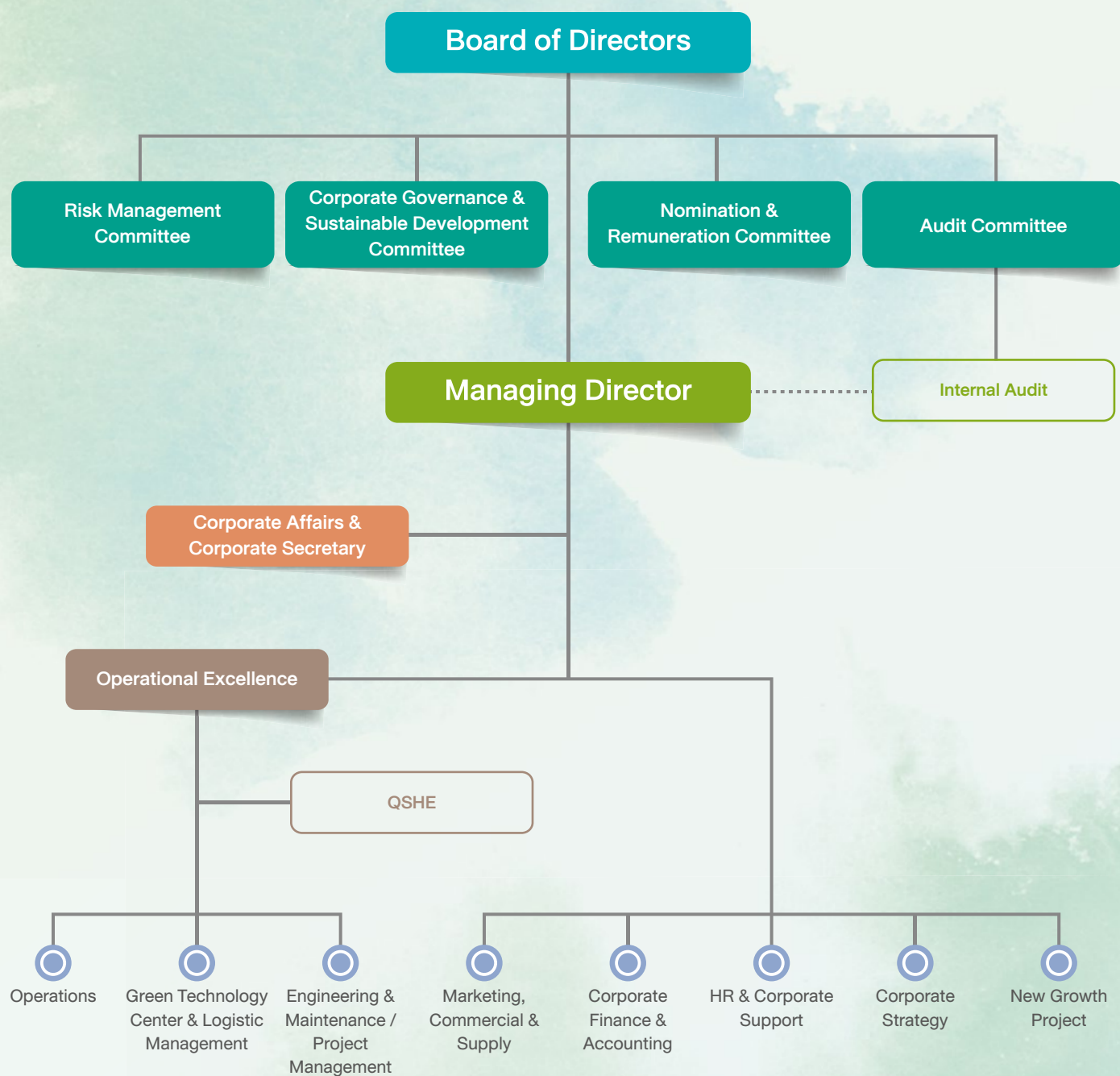
Work Experience (5 Years) :

- 2014 – 2018 Vice President, Learning & Development,
PTT Global Chemicals Public Company Limited
- 2011 – 2014 Division Manager, Leadership & Talent Management,
PTT Global Chemicals Public Company Limited

Shareholding : None

**Relations among Family with Other Directors, Management,
Major Shareholder of The Company or Subsidiaries : None**

Organization Structure (as of January 1, 2019)



Note :

The above organization structure was approved by The Board of Directors Meeting No. 17/2018 of October 17, 2018. Notably, the Operational Excellence position was added in the Organization Structure and the Logistic Management Division was separated from Marketing, Commercial and Supply Department.

Management Structure

The Board of Directors (as of January 1, 2019)

Name	Position	Appointed Date *
1. Mr. Supattanapong Punmeechaow	Chairman	February 17, 2016
2. Prof. Dr. Kumchai Jongjakapun ⁽¹⁾	Chairman of Independent Directors and Chairman of Audit Committee	February 17, 2016
3. ACM Songtam Chokkanapitag	Independent Director and Chairman of Nomination and Remuneration Committee	February 17, 2016
4. Mr. Payungsak Chartsutipol	Independent Director and Chairman of Corporate Governance and Sustainable Development Committee	January 6, 2017
5. Ms. Kannika Ngamsopee	Independent Director, Director to Audit Committee and Chairman of Risk Management Committee	February 17, 2016
6. Mr. Patiparn Sukorndhaman	Director and Director to Nomination and Remuneration Committee	February 17, 2016
7. Mr. Athavudhi Hirunburana	Director, Director to Nomination and Remuneration Committee and Director to Corporate Governance and Sustainable Development Committee	February 17, 2016
8. Mr. Apichart Jongskul	Independent Director and Director to Audit Committee	January 6, 2017
9. Mr. Suphit Suwagul ⁽²⁾	Independent Director and Director to Corporate Governance and Sustainable Development Committee	January 1, 2018
10. Mr. Narongsak Jivakanun	Director and Director to Risk Management Committee	February 17, 2016
11. Mr. Sekxon Arttamangkura ⁽³⁾	Director and Director to Risk Management Committee	August 1, 2018

Remark:

- (1) The Board of Directors meeting No. 10/2017 on December 20, 2017 has appointed Prof. Dr. Kumchai Jongjakapun as Chairman of Audit Committee in replace of Mr. Permsak Shevawattananon who resigned effective from January 1, 2018, and also appointed as Chairman of Independent Directors at Independent Directors meeting No. 1/2018 on December 20, 2018.
- (2) The Board of Directors meeting No. 10/2017 on December 20, 2017 has appointed Mr. Suphit Suwagul in replace of Mr. Permsak Shevawattananon, who resigned and appointed as Director to Corporate Governance and Sustainable Development Committee in replace of Prof. Dr. Kumchai Jongjakapun, who was appointed as Chairman of Audit Committee effective from January 1, 2018, whose qualification as Independent Director has been fulfilled according to SEC criteria, effective from October 1, 2018.
- (3) The Board of Directors meeting No. 12/2018 on July 19, 2018 has appointed Mr. Sekxon Arttamangkura as Director and Director to Risk Management Committee in replace of Mr. Jirawat Nooritanon, who resigned effective from August 1, 2018.

* Directors No.2 and 10 was re-appointed as Directors for their first term on March 15, 2016; and Director No. 3, 5, 6 was re-appointed as Directors for their first term on March 21, 2017; and Director No. 1, 4, 7, 8 was re-appointed as Directors for their first term on April 5, 2018 (AGM 2018).

Directors who Resigned in 2018

Name	Position	Time in Office
1. Mr. Jirawat Nooritanon	Director and Director to Risk Management Committee	February 17, 2016 – July 16, 2018

10 out of the 11 Directors are non-executive Director and 6 out of 11 are Independent Directors. The contact Address for all Directors is 555/1 Energy Complex Building A, 4th Floor, Vibhavadi Rangsit Road, Khwaeng Chatuchak, Khet Chatuchak, Bangkok 10900.

Authorized Directors

According to GGC's Articles of Association and Certificate of Incorporation from Department of Business Development of the Ministry of Commerce, as of December 31, 2018, the name of authorized signatory Directors are as follows: Mr. Supattanapong Punmeechaow, Mr. Athavudhi Hirunburana, Mr. Patiparn Sukorndhaman, Mr. Narongsak Jivakanun, and Mr. Sekxon Arttamangkura. The signatures of two of these five are required together with GGC's Seal affixed.

Composition and Appointment of Directors

The Board of Directors's composition and Directors' appointment, removal, or dismissal is spelled out in GGC's regulations and of Corporate Governance and Business Code of Conduct Handbook as highlighted below.

1. The Board of Directors is made up of 5 to 11 Directors, elected and removed at the shareholders' meeting. At least half must reside in Thailand, and all of them must be legally qualified, have no forbidden characteristics by laws, and must not be over the age of 70 years old. Directors are to choose one of them as Chairman and may appoint another as Vice Chairman.
2. Shareholders at the Shareholder meeting shall vote to appoint Director(s) according to the following guidelines:
 - (1) A shareholder has one vote per share.
 - (2) In the event that the number of nominees does not exceed the number of vacant positions during the election, shareholders shall vote on those eligible nominees. Shareholders must allocate all of their votes to one nominee per one (1) without dividing their votes.
 - (3) In the event that the number of nominees exceed the number of vacant positions during the election, the voting method shall be made on a person-by-person basis. In casting votes, shareholders must allocate all of their votes to one nominee per one (1) without dividing their votes. Nominees receiving the majority vote shall be elected to the Board of Directors until there are no vacancies left. Additionally in the event that the number of nominees with equal votes exceeds the number of available positions, the Chairman of the meeting shall cast the deciding vote.
3. In each Annual General Meeting, one-third (1/3) of the serving Directors shall step down as their terms end. In the event that the number of serving Directors is not equally divisible by three (3), the number of Directors stepping down shall be as close to the aforementioned ratio of 1:3 as possible. In the first and second years after Company registration, Directors may voluntarily step down. In the event the number of the volunteer still fall short, Director to step down shall be drawn by lots; however, for later years, Directors serving the longest terms shall step down. Directors whose term has ended maybe re-elected to the Board of Directors.
4. Resigning Directors must submit their resignation notice to GGC. Resignation is effective on the day GGC receives the said notice. In addition, Directors may also notify the registrar of their resignation for acknowledgement
5. In the event that a Director's position becomes vacant for any reason other than the end of term, the Board of Directors may appoint a new Director who is qualified and does not possess any attributes prohibited by laws to attend the next Board of Directors meeting, except the remaining term is less than two (2) months. The new Director shall only serve the remaining term of his or her predecessor. This decision must be made with the agreement of three-quarters (3/4) of the remaining Directors.

6. At a shareholder meeting, shareholders may pass a resolution to force the termination of a Director before his or her term ends with three-fourths (3/4) of the attending and eligible shareholders' votes. Additionally, these majority votes must constitute at least half (1/2) of there shares held by attending and eligible shareholders.

Authorities and Responsibilities of the Board of Directors

The Board of Directors is responsible for proactively performing key duties of decision-making and devising directions and supervision as follows.

1. Perform their duties and supervise GGC's businesses in strict compliance with the law, objectives, regulations, and shareholders' resolutions by adhering to SET's good practices for directors of listed companies
2. Dedicate their time and focus to the setting of GGC's vision, mission, directions, and strategies through free expression of views and pursuit of information that are helpful for setting GGC's business directions
3. Review and endorse key strategies and policies, objectives, financial goals, and work plans, while supervising and ensuring the management's compliance with these plans set in line with the annual corporate directions and strategies. This way, it can ensure that the management will efficiently execute such vision, mission, and strategies.
4. Devise a policy on Corporate Governance Policy and Code of Conduct, consisting of principles and good practices for the Directors, management, employees, and personnels, with a focus on forging awareness of responsibility for their duties, understanding, as well as strict observance in tandem with GGC's rules and regulations for fairness to all stakeholders
5. Define approval authority for matters beyond the authority delegated to the Managing Director in GGC's regulations, namely the approval of budgets, investment, project execution for GGC and subsidiaries, engagement in key contracts, appointment of Directors replacing those leaving during the year, appointment of sub-committees, naming of Directors authorized to sign and bind GGC, setting the AGM date, and interim dividend payment
6. Ensure that accounting, financial reporting, and account audit systems are credible, while instituting assessment processes for internal control and internal audit with a focus on efficiency and effectiveness
7. Consider potential key risk factors and set risk management approaches that are comprehensive. Ensure that Executives command efficient risk management processes, pursue potential business opportunities resulting from such risks, and establish adequate, effective internal control
8. Monitor and manage with potential conflicts of interest and related transactions, focusing on key transactions for the best interests of shareholders and stakeholders as a whole
9. Monitor and establish appropriated communication channels and encourage stakeholders to participate with GGC by adopting important issues in order to improve the business way of conducts effectively as well as governing information disclosure to ensure accuracy, clarity, credibility, with the highest standard.
10. Appraise the performances of itself and the Managing Director and review them
11. Institute a system for deciding remuneration for top GGC Executives that is suitable and in line with performance outcomes for short-term and longterm incentives.
12. Lead and provide role models for job execution and personify the Code of Conduct in line with GGC's Corporate Governance Policy.
13. Establish appraisal of compliance with the Corporate Governance Policy and Business Code of Conduct at least annually.
14. Establish a suitable personnel recruitment system for all those to be appointed to all key executive positions along with a transparent, fair recruitment process. Top Executives,

meaning Vice Presidents upward, are to be appointed with the Board of Director's majority votes.

15. Report to GGC any conflicted of interest that its members on their affiliates may have towards the management of GGC or subsidiaries
16. All Directors are to attend all Board of Directors meetings and shareholders' meetings. Should more important businesses preclude this, they must inform the Chairman
17. Value business conduct with social and environmental responsibility. Promote Thai society's sustainable, improved quality of life, beginning with communities around GGC's plants, for sustainable co-existence
18. Support GGC's resistance to corrupt practices in all forms for the sake of its sustainable progress and growth.
19. Directors shall play the significant role for establishing and driving corporate culture, conducting with ethics awareness, being a role model of Corporate governance as well as encouraging all levels of employees for executions apart from business operating profits.
20. Support and facilitate the mindset of innovation in order to create additional values and business opportunities, supervise GGC to establish the Risk Management system in technology as well as ensure the sufficiency of security measurement of technology information.
21. Encourage GGC to disclose information both in English and Thai languages through other channels, aside from the channel of the Stock Exchange of Thailand, such as GGC's Website.

Managing Director's Scope of Authority

The Board of Directors Appointed Mr. Sekxon Arttamangkura to the Managing Director position, the Board of Directors drew up a scope of authority for managing GGC's businesses in line with the policies, plans, and budgets approved by the Board of Directors. The Managing Director must proceed

under the objectives, regulations, resolutions of the Board of Directors, and company regulations. The Board of Directors assigned their authority in referenced with four board-approved regulations, namely (1) finance, accounting, and budget (2) procurement of materials (3) personnel administration, and (4) marketing, procurement, and product sales and services.

Independent Directors

According to GGC's Corporate Governance and Business Code of Conduct Handbook, at least one-third of the Board of Directors must be Independent Directors and each Director may serve up to three consecutive terms or up to nine years. All Independent Directors must be qualified and competent, be legally independent, express their independent views at meetings, regularly attend meetings, access enough financial and other business data to express their independent views, maintain the interests of those involved, and prevent conflicts of interest between GGC and Executives, Directors, the major shareholder, or other companies with the same Directors, Executives, or major shareholder. In addition, Independent Directors must verify their independence upon their appointment and report such verification annually for disclosure in the annual report, apart from informing GGC upon each change.

GGC's Independent Directors must command the following key qualifications:

1. Hold no more than 0.5% of the voting shares in GGC, parent companies, subsidiary companies, associated companies, major shareholders, or any persons with controlling power over GGC. This limit includes the shares held by Independent Directors' related parties.
2. Not currently be or never been a director participating in the management employees, staff, advisers with regular salaries, or any persons with controlling power over GGC, parent companies, subsidiary companies, associated companies, major shareholders, or persons with controlling power over GGC,

unless such qualifications have ended for at least two years.

3. Not related by blood or legal registration as parents, spouses, siblings, or children, spouses of the children of any directors, executives, major shareholders, persons with controlling power, or persons about to be nominated as directors, executives or persons with controlling power over GGC or its subsidiaries.
4. Engaged in no business relationship with GGC, parent companies, subsidiary companies, associated companies, major shareholders, or persons with controlling power over GGC, where such Independent Directors' discretion may be compromised. Are not current or past substantial shareholders or persons with controlling power over the person with business relationship with GGC, parent companies, subsidiary companies, associated companies, major shareholders, or persons with controlling power over GGC, unless such qualifications have ended for at least two years. The business relationship referred to above includes any common business transactions, lease of properties, transactions relating to assets or services, or any sponsorship or acceptance of sponsorship by either lending, borrowing, guaranteeing, collateral provision, or similar behavior that could result in an obligation on the applicant or the party to it for 3% or more of the net tangible asset value of THB 20 million or more, whichever is lesser. The method for calculating the value of connected transactions under the Capital Market Supervisory Board's notification on Rules of Entering into Connected Transactions must be applied mutatis mutandis in the calculation of the amount of debt. In calculating such debt, the debt incurred during the past year leading to the date on which such business relationship with such person exists must also be included.
5. Not currently having or never been auditors of GGC, parent companies, subsidiary companies, associated companies, major shareholders, or

persons with controlling power over GGC, and not significant shareholders (those holding over 10% of all GGC voting shares, including those shares held by related parties), persons with controlling power, or partners of any audit firms or offices which employ the auditors of GGC, parent companies, subsidiary companies, associated companies, major shareholders, or persons with controlling power over GGC, unless when such qualifications have ended for at least two years.

6. Not currently having or never been professional advisors, including legal or financial advisers earning the service fee of over THB 2 million per year from GGC, parent companies, subsidiary companies, associated companies, major shareholders, or persons with controlling power over GGC, and not significant shareholders, persons with controlling power, or partners of such professional service providers, unless when such qualifications have ended for at least two years.
7. Are not appointed to represent a Director of GGC, its major shareholder, or a shareholder related to its major shareholder.
8. Are not engaged in any similar business in competition with GGC or its subsidiaries, and not a significant partner in a partnership, executive directors, employees, staff, or advisers who earn salaries or hold more than 1% of the voting shares in another company engaging in a similar business and in competition with GGC or its subsidiaries.
9. Bear no characteristics that may compromise the expression of free views on GGC's operations.

After appointment as GGC's Independent Directors, they may be assigned by the Board of Directors to engage in the business operation of GGC, its parent company, subsidiaries, associates, sister companies, major shareholder, or controllers in the form of collective decision. Such practice is not regarded as Independent Directors' participation in management.

Currently, GGC has a total of six (6) Independent Directors, constituting more than one-third (1/3) of the Board of Directors and exceeding the legal requirement. Moreover, the Charter of Independent Director clearly outlines their duties and ensures their tangible performance.

Sub-Committees

In compliance with Corporate Governance, the Board of Directors Meeting No. 1/2016 of February 26, 2016, approved two sub-committees, namely The Audit Committee (AC) and The Nomination

and Remuneration Committee. The Board of Directors Meeting No. 1/2017 of January 13, 2017, appointed two more sub-committees, namely the Corporate Governance and Sustainable Development Committee and the Risk Management Committee. Each is to serve for three years in examining key specialized matters with prudence and efficiency before tabling their comments to the Board of Directors. Below are the list and duties of each sub-committees as of December 31, 2018, were as follows:

Audit Committee

Name	Position	Appointed Date
1. Prof. Dr. Kumchai Jongjakapun *	Chairman of Audit Committee (Independent Director)	January 1, 2018
2. Ms. Kannika Ngamsopee	Director to Audit Committee (Independent Director)	February 26, 2016
3. Mr. Apichart Jongskul **	Director to Audit Committee (Independent Director)	April 5, 2018

The Audit Committee Meeting No. 8/2017 on December 21, 2017, appointed Ms. Kunakorn Witthayapaisarn as Vice President, Internal Audit, served as committee secretary and this appointment shall be effective on January 1st, 2018.

Remark:-

The Replacement of The Chairman of Audit Committee:- The Board of Director Meeting No 10/2017 of December 20, 2017 approved the appointment of Prof. Dr. Kumchai Jongjakapan as Chairman of Audit Committee to replace Mr. Permsak Shewawattnanon, who resigned from Independent Director. The new appointment for Prof. Dr. Kumchai Jongjakapan shall be effective on January 1st 2018.

The Audit committee comprises at least three Independent Directors. The committee is subject to a three-year terms. The Directors must retire from office by rotation at Annual General Meeting of Shareholders. Nevertheless a retiring Director is eligible for re-election. With re-assignment for Directors, they must have fully qualifications, roles and responsibilities complied with SEC standard requirements on laws and regulations and also serve for The Board of Directors upon their assignment. At least one member of committee, must have extensive knowledge and experienced, are responsible for reviewing the reliability of the financial statements; this was Ms. Kannika Ngamsopee,

who has fully well-experienced on finance and accounting background.

Furthermore, the Audit Committee received more business knowledge and more information on control activities to support their audit duties. The benefits from those knowledgeable are to review the appropriateness of GGC financial reporting system and disclosure of information in its financial statement in accordance with the legally defined Financial Reporting Standards, effectiveness of internal control system, and well-prepared on risk management and effectiveness mitigation plan. The Audit Committee selects and proposes the

appointment or discharge an independent person to perform the duties of the Company's auditor also propose the remuneration of the Company's auditor and evaluate the effectiveness of auditor's performance. Following on Securities and Exchange Commission, Thailand (SEC) standard laws and regulations, the Audit Committee must review related parties transactions and conflict of interests that GGC given an appropriate reason to a highly GGC's benefits with transparency system to disclose an adequate information and transaction to public. As internal audit roles and responsibilities, the Audit Committee reviews the effectiveness internal audit activities to be complied with IIA's International Standards for the Professional Practice of Internal Auditing.

The Board of Directors also endorsed the Audit Committee Charter, which stated its objective, composition and qualifications of the Audit Committee members, scope of engagement and duties, responsibilities under good corporate governance principles, meeting, reporting and performance evaluation. The charter is part of the Corporate Governance Handbook and Business Code of Conduct which appear on GGC website.

To perform as state in the Audit Committee Charter duties, the Audit Committee held totally of eleven meetings and included meeting exclusively with external auditor and also privately meeting with GGC Managing Director. The Audit Committee have done their duties subject to scope of work and responsibility as assigned in the Audit Committee Charter. The Audit Committee annual performance report was also submitted to the Board of Directors and disclosed in GGC's annual report.

Regarding to the Inventory Shortfall Incident, the Audit Committee aware of this incident which the Board of Directors and the management should urgently handle this case with straightforward and transparency. Furthermore, the Audit Committee also reviewed Feedstock Sourcing and Inventory Management Process and highly recommend management to improve Internal Control System especially Feedstock Sourcing and Inventory

Management Process to be more effectiveness and create more preventive program to protect company benefits. The Audit Committee have received an Internal audit interim report that raising Red Flag on Inventory Issue and immediately informed to the Board of Directors who urgently appointed the Fact-Finding Taskforce on Inventory Issue. The Fact-Finding Taskforce investigated all evidences both GGC's staffs and related documents that related Feedstock Sourcing and Inventory Management Process. The result of investigation has given a legal action and GGC's Disciplinary Investigation Panel also advised GGC to staffs who found guilty on this case.

Moreover, the Audit Committee consented to the management consider for Feedstock Sourcing and Inventory Management Process Improvement by re-structural its organization to create a higher effectiveness control process. Regarding to the Inventory Issue, the Audit Committee has fully supported to the Board of Directors and the management following with Due Process and Duty of Care. All of actions of the Audit Committee contributed to GGC Benefit and stakeholders (The details can be found in "Inventory Shortfall Incident" section)

Nomination and Remuneration Committee

Name	Position	Appointed Date
1. ACM Songtam Chokkanapitag	Chairman of Nomination and Remuneration Committee (Independent Director)	February 26, 2016
2. Mr. Patiparn Sukorndhaman	Director to Nomination and Remuneration Committee	February 26, 2016
3. Mr. Athavudhi Hirunburana	Director to Nomination and Remuneration Committee	February 26, 2016

Ms. Uramanee Puttong, Vice President Corporate Affairs and Corporate Secretary, served as Secretary to the Nomination and Remuneration Committee

The Nomination and Remuneration Committee shall be comprised of at least three (3) Directors, one of whom must be an Independent Director and the Chairman shall also be an Independent Director. Each Director shall serve a three (3) years term unless their term of directorship on the Board of Directors ends, or they resign or are removed from position. The retired Director may be re-elected by the Board of Directors.

The Nomination and Remuneration Committee is responsible in nominating of individual for a directorship on the Board of Directors and the Sub-Committee, as well as the nomination of the Managing Director (MD).

The Nomination and Remuneration Committee consideration processes shall be transparent and aligned with establish guideline by taking into account the diversity of professions, field of expertise and specific qualification which can be useful for GGC business and in line with the Board Skill Matrix. This Criteria aim to strike a balance among all business fields and to yield the utmost benefit to GGC. In addition, the Nomination and Remuneration Committee may consider candidates from the Directors' Pool from trusted organizations and present nominee to the Board of Directors and/or at the Shareholders Meeting appointment.

The Board of Directors has given its approval to the Charter of the Nomination and Remuneration Committee which identifies the composition qualifications terms in office and their duties and responsibilities under the Corporate Governance principle. The details of the Charter are disclose in GGC's Corporate Governance and Business Code of Conduct Handbook.

In 2018, The Nomination and Remuneration Committee held a total of four (4) meetings, carrying out its roles within the scope of duties and responsibilities mandated by the Charter of the Nomination and Remuneration Committee and as assign by The Board of Directors. The Nomination and Remuneration Committee reported its performance to the Board of Directors and presented a summary of their performance through Annual Report.

Corporate Governance and Sustainable Development Committee

Name	Position	Appointed Date
1. Mr. Payungsak Chartsutipol	Chairman of Corporate Governance and Sustainable Development Committee (Independent Director)	January 13 2017
2. Mr. Athavudhi Hirunburana	Director to Corporate Governance and Sustainable Development Committee	January 13 2017
3. Mr. Suphit Suwagul	Director to Corporate Governance and Sustainable Development Committee (Independent Director)	January 1 2017

Ms. Uramanee Puttong, Vice President, Corporate Affairs and Corporate Secretary, served as Secretary to the Corporate Governance and Sustainable Development Committee.

The Corporate Governance and Sustainable Development Committee performed its board-assigned duties in deliberating and recommending to the Board of Directors, Executives, policy and practical approaches to the Business Code of Conduct and ethics under a Good Corporate Governance Principles so as to align with the guideline of SEC, SET, and leading entities in pursuit of international standard.

In 2018, the Corporate Governance and Sustainable Development Committee met five (5) times to fulfill its mandates stated in the charter and assigned by the Board of Directors its monitored compliance with the Corporate Governance Policy and summarized this for the shareholder in the annual report.

Regarding to the Inventory Shortfall Incident, the Corporate Governance and Sustainable Development Committee is well aware of this situation by discussing with Executives to strengthening Corporate Governance practices, building confidence for employees and stakeholder toward Whistleblower system as well as organizing a special meeting by focusing on development and improvement practices, as follows

1. Improving Corporate Governance & Business Code of Conduct, consists of updating the Corporate Governance and Business Code of

Conduct Handbook in line with the good practices of CG Code (SET's good practices), CGR and CAC assessment, and other criteria associated, review of the Sustainable Development Plan to comply with a contemporary standard, as well as promoting a corporate culture of "Devoted" which emphasizing honest and transparent of operative behavior.

2. Increasing Transparency, consists of raising awareness of the anti-corruption process in line with CAC's guideline to that GGC has certified as a member since 2018, Improving a channel of whistleblower so that employees and stakeholders can access easily, programming Conflict of Interest Declaration Report which Executives and employees have to disclose their transaction with conflict of interest through the GGC's intranet to confirm transparency in operation and avoid being involved in the process of personal interest.

In addition, the Corporate Governance and Sustainable Development Committee has reported the progress of the development and improvement of such guidelines to the Board of Directors for suggestions to prevent adverse events for all stakeholders in a sustainable manner.

Risk Management Committee

Name	Position	Appointed Date
1. Ms. Kannika Ngamsopee	Chairman of Risk Management Committee (Independent Director)	January 13, 3017
2. Mr. Narongsak Jivakanun	Director to Risk Management Committee	January 13, 3017
3. Mr. Sekxon Arttamangkura*	Director to Risk Management Committee	August 1, 2018

Remark:

* **Change in composition** : Board Meeting No. 12/2018 in July 19, 2018, appointed Mr. Sekxon Arttamangkura, in replace of Mr. Jirawat Nooritanon, with effect from August 1, 2018.

Mr. Apichart Kullavanijaya, Vice President, Corporate Strategy, served as Secretary to the Risk Management Committee.

This Risk Management Committee comprises of at least three (3) Directors, one of whom must be an Independent Director, with a three-year term. Members may leave their posts when they complete their directorships, complete their terms on this committee, resign, or are removed. Those who leave on term completion may be re-appointed by the Board of Directors. Their duties are to define and review policies, objectives, and scopes of risk management for uniform execution of corporate risk management processes in line with business goals and strategies through regular reviews of such policies, objectives, and scopes, take place with priority given to warning signs. They are also to supervise risk identification based on external and internal factors that could prevent GGC from achieving its objectives; assess impacts and their probabilities so as to assess risks and choose suitable risk management methods; supervise risk management for effectiveness; appraise risk management effectiveness; annually review its own charter; and perform other board-assigned duties and duties included in GGC's articles of association.

In 2018, the Risk Management Committee met nine (9) times to perform their charter and board-assigned duties, reporting its performance to the Board of Directors every quarter, as summarized it for the shareholders in the annual report.

Regarding GGC's Inventory Shortfall Incident, the Risk Management Committees recognized the urgency of resolving the problem by calling a special the Risk Management Committees meeting and assigning the management to update the incident, assess impacts on execution plans, and monitoring updates on the management of this inventory feedstock problem, together with the improvement approach of the internal control aspect of the feedstock management process so as to improve efficiency and lower risks in managing inventory feedstock. In addition, the Risk Management Committees assigned the management to consider revising the scope of inventory feedstock risk management to ease suitable risk management in line with the economy and GGC's business. Regarding GGC's hiring of an independent third-party auditor to review the internal control system under the feedstock procurement process and its recommendations for improving such process, the Risk Management Committees played a role in such oversight and assigning the management to undertake such improvement as recommended by the independent third-party auditor and then report the result to the Risk Management Committees and the Board of Directors. The management was also assigned to

monitor and manage inventory feedstock to suitable levels under the risk management scope and to report its performance to the Risk Management Committees and the Board of Directors every quarter.

In respect of the Inventory Shortfall Incident, GGC recognized the problem and engaged external independent auditor to conduct the audit and review the Procurement process (Feedstock Inventory). Risk Management Committee supervised and assigned the management to adopt the independent auditor advices to improve GGC's operation and report such improvement to the

Risk management committee and the Board of Directors. The Risk Management committee also assigned the management to closely monitor the progress of improvement and balance the quantity of feedstock inventory to align with Risk Management Framework and report to Risk Management Committee and Board of Directors. Risk Management Committee significantly emphasized management of feedstock and inventory by supporting and recommending to Board of Directors with Duty of Care for benefit of all stakeholders.

Board of Directors' Meetings

In 2018, the Board of Directors, Independent Directors, and Sub-Committees held various meetings as shown below. These meetings were called in advance. Directors who could not attend sent their letters to the Chairman, stating their reasons for their absences, of which the Chairman then informed the meeting before proceeding.

For a given year, the Board of Directors schedules its meeting dates in advance, as a rule meeting monthly so that Directors may plan their attendance without undue conflicts with their main duties. Directors that are government officials allocate their personal hours or apply for leave to utilize their experience and ability to their extra GGC duties, regarded as another role in national development as GGC Directors with a vision for biochemical leadership under the mission of creating sustainable value for stakeholders, which include the country and society.

The Board of Director held special meeting to monitor and recommend closely on the Inventory Shortfall Incident.

Board of Directors Meetings in 2018 (Regular Meetings)

Name	Board Meetings in 2018							
	Board of Directors	Independent Directors	Non-Executive Directors	Audit Committee	Nomination & Remuneration Committee	Corporate Governance & Sustainable Development Committee	Risk Management Committee	AGM 2018
	14 times	once	once	11 times	4 times	5 times	9 times	once
1. Mr. Supattanapong Puneechaow	14/14	-	1/1	-	-	-	-	1/1
2. Prof. Dr. Kumchai Jongjakapun ⁽¹⁾	11/14	1/1	1/1	11/11	-	-	-	1/1
3. ACM Songtam Chokkanapitag	13/14	1/1	1/1	-	4/4	-	-	1/1
4. Mr. Payungsak Chartsutipol	14/14	1/1	1/1	-	-	5/5	-	1/1
5. Ms. Kannika Ngamsopee	14/14	1/1	1/1	11/11	-	-	9/9	1/1
6. Mr. Patiparn Sukorndhaman	13/14	-	1/1	-	4/4	-	-	1/1
7. Mr. Athavudhi Hirunburana	14/14	-	1/1	-	4/4	5/5	-	1/1
8. Mr. Apichart Jongskul	14/14	1/1	1/1	11/11	-	-	-	1/1
9. Mr. Suphit Suwagul	14/14	1/1	1/1	-	-	4/5	-	1/1
10. Mr. Narongsak Jivakanun	14/14	-	1/1	-	-	-	9/9	1/1
11. Mr. Sekxon Arttamangkura ⁽²⁾	6/6	-	-	-	-	-	5/5	-

Remark:

- (1) Due to Changing the Board of Directors Meeting schedule, Prof. Dr. Kumchai Jongjakapun was not able to attend the Board of Directors Meeting.
- (2) Mr. Sekxon Arttamangkura replaced Mr. Jirawat Nooritanon, who resigned with effect from August 1, 2018, as Director and Director to Risk Management Committee.
- (3) Mr. Jirawat Nooritanon resigned from the Board of Directors and the Risk Management Committee effective from July 16, 2018. Before the resignation, he had attended 4 Board of Directors meetings and 3 Risk Management Committee Meetings.

Board of Directors Meeting in 2018* (Special Meetings)

Name	Special Board Meeting Total 7 times
1. Mr. Supattanapong Puneechaow	6/7
2. Prof. Dr. Kumchai Jongjakapun	7/7
3. ACM Songtam Chokkanapitag	6/7
4. Mr. Payungsak Chartsutipol	7/7
5. Ms. Kannika Ngamsopee	5/7
6. Mr. Patiparn Sukorndhaman	6/7
7. Mr. Athavudhi Hirunburana	7/7
8. Mr. Apichart Jongskul	6/7
9. Mr. Suphit Suwagul	6/7
10. Mr. Narongsak Jivakanun	7/7
11. Mr. Sekxon Arttamangkura ⁽¹⁾	1/1

Remark:

- * Seven (7) special Board of Directors meetings were held to follow up the inventory shortfall incident.
- * Chairman of the Board of Directors could not attend one (1) time on the special meeting due to urgent matter and assigned acting Chairman to conduct the meeting.
- (1) Mr. Sekxon Arttamangkura replaced Mr. Jirawat Nooritanon, who resigned with effect from August 1, 2018, as Director and Director to Risk Management Committee.

Management

So that the management of GGC may proceed with efficiency and compliance with the policies and directions of the Board of Directors, the Managing Director has appointed a Management Committee (MC), consisting of top management team members from Vice President position. The MC is led by the Managing Director, the top management charged with day-to-day GGC management under the Board-approved policies, plans, and budgets.

The Management Committee (MC) consisted of executives under the organization structure of January 1, 2019, and Company Directive No. 001/2019 on the appointment of the Management Committee (MC).

Name	Title
1. Mr. Sekxon Arttamangkura ⁽¹⁾	Managing Director Acting Deputy of Managing Director, Operational Excellence
2. Ms. Uramanee Puttong	Vice President, Corporate Affairs and Corporate Secretary
3. Ms. Kunakorn Wittayapaisarn ⁽²⁾	Vice President, Internal Audit
4. Mr. Apichart Kullavanijaya	Vice President, Corporate Strategy
5. Ms. Sirintra Chatchawanpreecha	Vice President, Green Technology Center and Logistic Management
6. Ms. Rattiya Chandavasv ⁽³⁾	Vice President , Marketing, Commercial and Supply
7. Ms. Wanlapa Sophiskhaunkhant	Vice President, Corporate Finance and Accounting
8. Ms. Narungsi Kaiwikaigumnurd ⁽⁴⁾	Vice President, HR and Corporate Support
9. Mr. Sayan Saesue	Vice President, Operations
10. Mr. Chanasiri Vanit	Vice President, Engineering and Maintenance / Project Management

Remark:

- (1) Appointed Mr. Sekxon Arttamangkura as Managing Director in replace of Mr. Jirawat Nooritanon, who resigned, with effect from August 1, 2018.
Mr. Athavudhi Hirunburana Acting Managing Director in replace of Mr. Jirawat Nooritanon, who resigned from June 29, 2018
- (2) Ms. Kunakorn Wittayapaisarn, Vice President, Internal Audit, who attends the meeting on relevant agenda and does not affect independency.
- (3) Appointed Ms. Rattiya Chandavasv as Acting Vice President, Marketing, Commercial, and Supply in replace of Mr. Wunlop Thianthong, who was in turn transferred to the Office of the Managing Director, with effect from May 24, 2018. (Mr. Wanlop Thianthong was no longer employee of GGC since December 14, 2018.
- (4) Appointed Ms. Narangsi Kaiwikaigumnurd as Vice President, HR and Corporate Support in replace of Ms. Sunanta Promroj, who retired, with effect from December 15, 2018.

Secondment

Name	Title
1. Mr. Piya Suri*	Vice President, Reporting to the Managing Director

Remark:

* Full-time secondee at Thai Ethoxylate Co., Ltd. (TEX)

The Management Committee (MC) is in charge of setting GGC's directions and business guidelines through reviewing and providing recommendations on corporate policies, approaches to business, matters leading to significant changes to the businesses of GGC. They also comment on and review meeting agendas ahead of the Board's consideration together with matters needing compliance with laws and regulations to conform to GGC's operations.

On average, the MC meets at least twice a month, and in 2018 met 24 times. The Vice President, Corporate Affairs and Corporate Secretary, serves as its secretary and recorder of meeting minutes.

Directorships of Subsidiaries / Joint Ventures / Related Companies

Directorships of Subsidiaries / Joint Ventures / Related Companies	Mr. Supattapong Punmeechaow	Mr. Patiparn Sukorndhaman	Mr. Narongsak Jivakanun	Mr. Payungsak Chartsutipol	Mr. Sekxon Arttamangkura	Mr. Chanasiri Vanit	Ms. Wanlapa Sophiskhaunkhant	Mr. Apichart Kullavanijaya	Mr. Piya Suri
Subsidiary									
1. Thai Fatty Alcohols Co., Ltd. (TFA)					●		■	■	■
2. GGC Biochemicals Co., Ltd. (GGC Bio)					●		■	■	■
Joint Ventures									
1. Thai Ethoxylate Co., Ltd. (TEX)					■				■
2. Thai Eastern Top Seeds Oil Co., Ltd. (TETSO)						■	■		■
Related Companies									
1. PTT Plc. (PTT)	■								
2. PTT Global Chemical Plc. (GC)	■	■	■						
3. Global Power Synergy Plc. (GPSC)	■			■					
4. PTT MCC Biochem Co., Ltd. (PTT MCC)					●				
5. GC Glycol Co., Ltd. (Glycol)		●							
6. PTT Asahi Chemical Co., Ltd. (PTTAC)		■							
7. GC Oxirane Co., Ltd. (GCO)		●							
8. GC Polyols Co., Ltd. (GCP)		●	■						
9. GC Styrenics Co., Ltd. (GCS)		●							
10. GC Marketing Solutions Co., Ltd. (GCM)		●							
11. PTT Phenol Co., Ltd. (PPCL)		■	■						
12. HMC Polymers Co., Ltd. (HMC)		▲							
13. GC Ventures America Corporation (GCVA)			■						
14. GC Ventures Co., Ltd. (GCV)			●						
15. GC Estate Co., Ltd. (GCEC)			●						
16. PTTGC America Corporation (GC America Corporation)			■						
17. PTTGC America LLC (GC America LLC)			■						
18. PTTGC Chemical International Private Limited (GC Inter)	■								
19. Solution Creation Co., Ltd. (SUN)		●							
20. GC-M PTA Co., Ltd (GC-M PTA)		●							
21. Vinythai Public Company Limited (VNT)			▲						

Remark:

● Chairman ▲ Vice President ■ Director ■ Management

Corporate Secretary

In compliance with Article 89/1 and Article 89/2 of the SEC Act (No. 4) of 2008, Board of Directors Meeting No. 9/2017 of November 8, 2017, appointed Ms. Uramanee Puttong Corporate Secretary, effective from January 1, 2018. The Corporate Secretary performs her duties under the laws in preparing and maintaining key corporate documents, namely the director registra, meeting notices, Board of Directors minutes of meeting, shareholders' minutes of meeting, Annual Reports, and Reports of Related Parties Transaction of Directors and Executives. She also takes action concerning the Board of Directors and shareholders' meetings. The Corporate Secretary attends key training courses helpful to her complete range of duties.

Remuneration for the Board of Directors and Sub-Committees

The 2018 Annual General Meeting (AGM) of April 5, 2018, approved the remuneration for the Board of Directors, Sub-Committees, and Sub-Committees that may be appointed by the Board of Directors when necessary in the future. The remuneration for the Board of Directors and Sub-Committees is shown below.

Board of Directors / Sub-Committee	Monthly Remuneration (THB)		Remuneration for Meeting Attendance (THB / Time / Director) *	
	Chairman	Director	Chairman	Director
Board of Directors	37,500	30,000	-	-
Audit Committee	-	-	25,000	20,000
Nomination and Remuneration Committee	-	-	25,000	20,000
Corporate Governance and Sustainable Development Committee	-	-	25,000	20,000
Risk Management Committee	-	-	25,000	20,000
Other Compensation	-None-	-None-	-None-	-None-

Remark:

* Paid for each attendance

In the event that the Company payouts dividend, the Board of Directors shall receive the bonus payouts of 0.5% net profit or not exceed THB 10 million per year. The bonus were prorated to each Director's term; the Chairman is to receive 25% higher than other Directors. This is subject to approval at the Annual General Meeting.

In 2018, Total remuneration of Directors as of December 31, 2018 is shown below.

Name	Board of Directors	Audit Committee	Nomination & Remuneration Committee ⁽²⁾	Corporate Governance & Sustainable Development Committee ⁽³⁾	Risk Management Committee	Bonus for the Performance of 2017 Paid in 2018
1. Mr. Supattanapong Puneechaow	450,000.00	-	-	-	-	289,813.20
2. Prof. Dr. Kumchai Jongjakapuri	360,000.00	275,000.00	-	-	-	231,850.56
3. ACM Songtam Chokkanapitag	360,000.00	-	75,000.00	-	-	231,850.56
4. Mr. Payungsak Chartsutipol	360,000.00	-	-	100,000.00	-	228,674.52
5. Ms. Kannika Ngamsopee	360,000.00	220,000.00	-	-	225,000.00	231,850.56
6. Mr. Patiparn Sukorndhaman	360,000.00	-	60,000.00	-	-	231,850.56
7. Mr. Athavudhi Hirunburana	360,000.00	-	60,000.00	80,000.00	-	231,850.56
8. Mr. Apichart Jongskul	360,000.00	220,000.00	-	-	-	228,674.52
9. Mr. Suphit Suwagul	360,000.00	-	-	60,000.00	-	-
10. Mr. Narongsak Jivakanun	360,000.00	-	-	-	180,000.00	231,850.56
11. Mr. Sekxon Arttamangkura	150,000.00	-	-	-	100,000.00	-
12. Mr. Jirawat Nooritanon ⁽¹⁾	194,516.13	-	-	-	60,000.00	231,850.56
The Director who resigned in 2017 and received the remuneration and bonus for the performance of 2017 but paid in 2018 *						
1. Mr. Permsak Shevawattananon	-	25,000.00	-	-	-	231,850.56
Total	4,034,516.13	740,000.00	195,000.00	240,000.00	565,000.00	2,601,966.72

Note :

* Mr. Permsak Shevawattananon as a member of Board of Director and Audit Committee during 2017 (April 1 – December 31, 2017).

(1) Mr. Jirawat Nooritanon, Board of Directors and Directors to Risk Management Committee, who resigned, with effect from July 16, 2018.

(2) The Nomination and Remuneration Committee had 4 meetings. The compensation for the 4th meeting was paid in 2019.

(3) The Corporate Governance and Sustainable Development Committee had 5 meetings. The compensation for the 5th meeting was paid in 2019.

Directors' Remuneration for Directorship at Subsidiaries

GGC's Directors serve at subsidiaries to ensure that their businesses are operated under GGC Group's policies.

Name	Position	Total Compensation
Thai Fatty Alcohols Company Limited		
Mr. Sekxon Arttamangkura ⁽¹⁾	Director / Chairman	None
GGC Biochemicals Company Limited		
Mr. Sekxon Arttamangkura	Director / Chairman	None

Note :

(1) Mr. Sekxon Arttamangkura was appointed as Director/Chairman, in replace of Mr. Jirawat Nooritanon, who resigned, with effect from August 8, 2018.

Management Remuneration

GGC evaluates management performances annually by using Key Performance Indicators (KPIs), which include financial performance, implementation of long-term strategic goals, personal performance, GGC's performance, and guidelines of peer SET-listed companies of a similar size. The evaluation also takes into account their responsibilities, management development, and overall economic circumstances.

Remuneration for the Managing Director is determined using transparent, fair, and reasonable criteria. Duties and responsibilities are also taken into account in conjunction with personal performance. The Nomination and Remuneration Committee reviews the outcomes before submission to the Board of Directors for approval.

At the top management hierarchy, the Managing Director earns compensations and other benefits in addition to those received as Director of the Board of Directors.

Total compensation received by the Executives under SEC's definition who served in 2018 is shown below.

Item	Persons	Amount (THB)
Salary, bonuses, wages, and other welfares	13	44,829,145.43
Provident fund contribution	12	3,477,139.83

Remark :

* Including salary, bonuses, wages, and other welfares of retired Management and Acting Managing Director.

Securities held by Directors, their spouses, and their minors as of December 31, 2018

Directors*	Shareholding (Shares)		Change during the year
	As of Jan 1, 2018	As of Dec 31, 2018	
1. Mr. Supattanapong Punmeechaow	-None-	50,000	Increased during the year for 50,000 shares
2. Prof. Dr. Kumchai Jongjakapun	-None-	15,000 (Spouse)	Increased during the year for 15,000 shares
3. ACM Songtam Chokkanapitag	-None-	-None-	-No change-
4. Mr. Payungsak Chartsutipol	-None-	50,000	Increased during the year for 50,000 shares
5. Ms. Kannika Ngamsopee	-None-	20,000	Increased during the year for 20,000 shares
6. Mr. Patiparn Sukorndhaman	-None-	23,000	Increased during the year for 23,000 shares
7. Mr. Athavudhi Hirunburana	-None-	-None-	-No change-
8. Mr. Apichart Jongskul	-None-	-None-	-No change-
9. Mr. Suphit Suwagul	-None-	-None-	-No change-
10. Mr. Narongsak Jivakanun	-None-	15,000	Increased during the year for 15,000 shares
11. Mr. Sekxon Arttamangkura	-None- (August 1, 2018)	-None-	-No change-

Remark : Comply with the notification of SEC No. TorChor. 17/2551 Re: Determination of Definitions in Notifications relating to Issuance and Offer for Sale of Securities Clause 2 (16).

* Including shares held by Directors' spouse and minor children.

**Securities held by Executives under SEC's Definition, their spouses, and their minors
as of December 31, 2018**

Executives*	Shareholding (Shares)		Change during the year
	As of Jan 1, 2018	As of Dec 31, 2018	
1. Mr. Sekxon Arttamangkura	-None- (August 1, 2018)	-None-	-No change-
2. Ms. Uramanee Puttong	-None-	1,000	Increased during the year for 1,000 shares
3. Mr. Apichart Kullavanijaya	-None-	-None-	-No change-
4. Ms. Sirintra Chatchawanpreecha	-None-	-None-	-No change-
5. Mr. Rattiya Chandavas	-None-	-None-	-No change-
6. Ms. Wanlapa Sophiskhaunkhant	-None-	-None-	-No change-
7. Ms. Sunanta Promroj	-None-	-None-	-No change-
8. Ms. Narangsi Kaiwikaigumnurd	-None-	-None-	-No change-
9. Mr. Sayan Saesue	-None-	-None-	-No change-
10. Mr. Chanasiri Vanit	-None-	33,000	Increased during the year for 33,000 shares

Remark : Comply with the notification of SEC No. TorChor. 17/2551 Re: Determination of Definitions in Notifications relating to Issuance and Offer for Sale of Securities Clause 2 (16).

* Including shares held by Executives' spouse and minor children.





Corporate Governance

3



Corporate Governance

The Board of Directors emphasized business operation based on a Good Corporate Governance and Business Code of Conduct in order to conduct its business with transparency and efficiency as well as strengthen the confidence among shareholders, investors and all stakeholders and to enhance the competitiveness of the Company.

Corporate Governance Policy

The Board of Directors has established the Company Corporate Governance Policy in compliance with international standards as part of the Company Policy since 2016. The Board of Directors assign the Corporate Governance and Sustainable Development Committee to supervise, monitor and maintain its international standards as well as align with Corporate Strategies and business objectives and goals including volatile socio-economic circumstances. The goal is to comply with Laws, Rules, Regulations and International practices with annual performance monitoring and assessment based on the compliance with The Corporate Governance Principle through regular meeting of the Board of Directors.

In 2018, The Corporate Governance and Sustainable Development Committee reviewed and improved the Corporate Governance and Business Code of Conduct Handbook to be in line with current situation and comply with the Corporate Governance principle (CG Code 2017) for the Listed companies.

Corporate Governance and Business Code of Conduct

To provide a consistent Corporate Governance Policy, The Company has adopted the policy which reflect those practice, The Board of Directors implemented the Corporate Governance and Business Code of Conduct Handbook containing good practices and rule that align with such policy and that all Directors, Managements and employees need to abide by. The Board of Directors regularly ensure compliance with the Corporate Governance Roadmap 2018, with regular reporting mechanism to the Board of Directors.

Communication of Corporate Governance Principle

The Company set up principles of Corporate Governance which are easy to memorize, namely Creation of Long-Term Value, Responsibility, Equitable Treatment, Accountability Transparency and Ethics (CREATE) and communicate this principle through their first orientation session as a new employee by installing awareness and constantly reminding through training, seminars and other activities including assessment of Directors' and employees performance acknowledgment and implementation as well as undergoing assessment of performance against regulations criteria, in accordance with supervising agencies such as The Securities and Exchange Commission (SEC), The Stock Exchange of Thailand (SET), The Institute of Directors (IOD) and Thai Investors Association to measure compliance efficiency of the Company Corporate Governance and upgrade the Company Corporate Governance to be in line with international standards.

Business Code of Conduct

The Business Code of Conduct consists of principle that Directors and Management are to assert leadership and good example in ethical practices, promote the culture of Good Corporate Governance, take responsibility for stakeholders and promote implementation and business operations by taking into account Human Rights, Consumer's Rights and fair use of labor. Also, instituted a system that can monitor assess and revise to ensure that employees comply with this sustainable Business Code of Conduct. Ethical matters are defined in the Corporate Governance and Business Code of Conduct Handbook of GGC Group, delivered to all Directors, Managements and employees for acknowledgement as their commitment to adherence. The

Business Code of Conduct Handbook is also distributed to subsidiaries and affiliates as well as published on the Company website www.ggcplc.com under the section “Corporate Governance” to be available for shareholders, investors and the publics.

Dissemination of Good Corporate Governance based on International Standards

The Company adheres The Stock Exchange of Thailand (SET) on the Corporate Governance Principle for listed companies (CG Code) , Corporate Governance Report (CGR) and Dow Jones Sustainability Indices (DJSI) under the five categories as follow:

Rights of Shareholders

The Board of Directors valued the protection of shareholders rights by defining the Principle in the Corporate Governance and Business Code of Conduct Handbook as well as ensuring compliance with the establish principle.

1. The provision of important and pertinent information to shareholders.

Important and necessary information for shareholders regarding business operations must be accurate and up to date through the Company’s website and disclosing information via Stock Exchange of Thailand Portal (SET Portal) even though some subjects are not required to be disclosed but if the Company considered that such documents deem necessary to the shareholders, the company will disclosed through website and via SET Portal.

2. The 2018 Annual General Meeting of Shareholders.

GGC held the 2018 Annual General Meeting of Shareholders (AGM) on April 5th, 2018, at Vibhavadee Ballroom, Centara Grand at Central Plaza Ladprao, 1695 Phaholyothin Road, Chatuchak, Bangkok 10900 which was the first Shareholders meeting after the Initial Public Offering (IPO). The Company strictly comply to the Law as well as Best Practice based on AGM Checklist from the Securities and Exchange Commission (SEC) in addition, regardless of the shareholders’s rights and equitable treatment of shareholders according to the principles of Corporate Governance. In summary, as follows:

Prior to the Meeting

- Provided opportunities for minority shareholders defined as any single shareholder or group of shareholder holding at least 5% of all shares with eligible voting rights, to propose agenda items and nominate qualified candidates to be elected as Directors prior to the meeting during October 1 to December 31, 2017, under criteria set by the Board of Directors. By disclosing to shareholders and such defined criteria, it does not districted the right of minority shareholders in proposing the agenda. The Chairman of the Board of Directors will be the one who informed the results of this consideration in the Shareholders Meeting. However, in 2018 no shareholder has proposed any agenda items nor nominated directors.
- In 2018, The Corporate Governance and Sustainable Development committee has reviewed and revised the criteria for minority shareholders to proposed the agenda items and nominated qualifies candidate to be elected as director for the Annual General Meeting from shareholding of not less than 5% to not less than 4% and implement this criteria for the Annual General Meeting for the year 2019 starting the period of proposing the Agenda and Nomination of Directors from October to December 2018.
- To improve the quality of the Annual General Meeting, The Company has taking into account shareholders suggestion and recommendations.
- The Company instantly notify the Stock Exchange of Thailand (SET) after the Board of Directors resolutions on the Record Date for the right to attend the meeting as well as the dividend payment.

- The invitation letter Noticing the Shareholders' Meeting and all related documents including proxies has been prepared according to the Ministry of Commerce criteria. The Company provided both Thai and English version as well as details including date, time and venue of the meeting, separating each agenda clearly and also nominated for the Independent Shareholders to consider and select as proxy for shareholders that could not attend the meeting such as the process of registration, The use of the right to vote, and voting procedures in which the Company does not impose conditions that complicate the shareholders.
- The Company has published the invitation letter of the Annual General Meeting and related documents through the Company website up to 30 days prior the day of the meeting as well as sending invitations letter to shareholders more than 21 day in advance to comply which was more that the requirement.

On the day of the meeting

- The Company held its Shareholders Meeting on April 5, 2018 at 09.30 am at Vibhavadee Ballroom Centara Grand, Central Plaza Ladprao Bangkok, a large conference room that could accommodate shareholders and easy to get to,
- in order for shareholders to attend the meeting and giving comments and questions. The Company also provide staff to provide information to the shareholders. As well as prepared security plan in the event of emergency.
- The Company open for registration two hours prior the meeting and provide easy documentation checking process and also adopted barcode scanning systems into the registration process for convenience and efficiency. All information are accurate and complete. The Company also opens for registration throughout the time of the meeting for shareholders to vote for agenda in which have not yet been considered.
- The Board of Directors and the Sub-Committees including managements fully participate in the Shareholders Meeting. In addition, it was their duties and responsibilities as the Board of Directors, moreover the Company also have Legal counsel, auditors and shareholders rights volunteers and volunteer witness in vote counting.
- Chairman of the Board of Directors acting the chairman of the Shareholders Meeting informed all related criteria in compliance with applicable Laws, Rules and Regulations, including the opening of the meeting and announced the number of attendees. Total number of shares



entitled to vote at the Meeting. The Annual General Meeting of Shareholders for the year 2018 amounted to a total of 309 participants. Moreover, the chairman also explained the procedures of voting prior to the Meeting. Organized a ballot on every item, both agree disagree and abstain.

- The Chairman has allocated the meeting time adequately and implements a proper and transparent throughout all agendas. Managing Director and Managements also involved in answering questions from shareholders as well as to records all questions from shareholders.
- The Company has given the right to select and appoint directors who retired by rotation in accordance with the Company Article of Association and also supported the right of shareholders to approve the remuneration for the Board of Directors and the Sub-Committees. Appropriated information about the appointed Directors who retired by rotation has been provided to the shareholders.

After the meeting

- The company published the resolution of the Annual General Meeting of Shareholders for the year 2018 right after the meeting finished. The resolution stated the votes of the shareholders on agree and disagree on each agenda item. The Company also provide the Minutes of Shareholders Meeting to the shareholders within 14 days from the date of the meeting and published on the Company's website www.ggcplc.com for the shareholders.
- To maintain the quality of the Annual General Meeting of Shareholders for the year 2018, The Company has taken into accounts the assessment on the Annual General Meeting of Shareholders (AGM Checklist) in which the Company has been participated for the first time and receives a score of 100 points on the excellent level, this Assessment was evaluated by the General Meeting of shareholders (Annual General Meeting–AGM) for the year 2018 held by the Investors Association of Thailand.

Equitable Treatment of Shareholders

The Board recognizes its duty to fairly look after the shareholders' inherent rights of major, minor, institutional, and foreign shareholders. Its policy is to treat all shareholders equitably, consistently, and in a timely way regarding AGM attendance and voting, acknowledgment of intelligence and performance, and management policies.

1. Equitability

GGC disregards differences in gender, age, skin color, nationality, religious belief, and disability. It defines governance guidelines to safeguard shareholders' fundamental rights in an equitable and fair manner and bolsters confidence in GGC investment through efficient business conduct to establish corporate sustainability, provide suitable returns to the shareholders, and ensure that the stakeholders are looked after in a sustainable and fair manner.

2. Shareholders' nomination of agenda items, directors, and queries

All shareholders can recommend, comment, or send complaints to the Chairman, Corporate Governance and Sustainable Development Committee (an independent director) at GGC's website under Corporate Governance and the Corporate Secretary via corporate governance@ggcplc.com. The committee is to screen and review such matters for proper action. For instance, for recommendations considered useful to GGC's business, the committee will forward to the Board of Directors. Also, a channel has been instituted for institutional investors to request data or express their views through ir@ggcplc.com, where Investor Relations is responsible in providing data to investors. And if shareholders wish to appoint proxies to attend meetings and vote on their behalf, GGC sends them proxy forms containing voting forms for each agenda item, complete with details about independent directors' names and profiles as a proxy option;

GGC also informs shareholders of supporting documents and proxy assignment procedures, the instruction of which accompanies meeting notices in Thai and English.

At Meeting No. 4/2018 of September 11, 2018, the Corporate Governance and Sustainable Development Committee approved the modification of the criteria and guidelines to determine the ratio of combined shareholding from no less than 5% to no less than 4% of the total voting shares for eligible shareholders to nominate agenda items and directors ahead of the AGM.

3. Monitoring of directors' and management's use of inside information

The Board has set a policy and good practices for employees to implement in line with good corporate governance, the Business Code of Conduct, laws, and regulations. It set guidelines to safeguard actions not yet ready for public disclosure for personal interests—which are considered insider trading or cause for conflicts of interest.

- The Board of Directors has modified its Business Code of conduct and employees' code of conduct to cover guidelines for anti-corruption practices and consideration of punitive measures. These appear in the Corporate Governance and Business Code of Conduct Handbook for communication to directors, management, and employees for acknowledgment and compliance.
- The Board of Directors has defined a Business Code of conduct for refraining from using inside information (information undisclosed to the public) for the trading of GGC's securities so as to prevent the use or disclosure of inside information for their own interests or the interests of others to avoid employees' misconduct. GGC takes into account the equitable treatment of all shareholders and investors.
- The Board has stipulated the no-trading date for directors, management, and employees involved in the preparation of financial data by

prohibiting them from trading GGC's securities for at least 30 days before the announcement of its financial statements to SET and at least 24 hours after the release date of such statements. GGC regularly reminds the Board and management of these ahead of time.

4. Prevention of conflicts of interest

The Board of Directors has defined a policy, Business Code of Conduct, and other operations as follows:

- GGC has formulated a policy for directors or management that may engage in transactions with potential conflicts of interest or interests on any meeting agenda item to not attend applicable meetings. If they have to attend to provide essential information for consideration, they must abstain from voting or giving opinions on the item.
- GGC has instituted a system for reporting possible conflicts of interest for 2018 for all employees to do the reporting for themselves. This year GGC inaugurated the Intranet-based reporting system, changing from joint reporting with GC Group.

Role of Stakeholders

GGC has been placing much importance on the rights of every group of stakeholders: shareholders, customers, business partners, competitors, public sector, employee, society, communities, and environment by compiling principles covering the rights and impacts mitigation of stakeholders and formulating good practices in written form, and disseminating them on website and other channels provided to stakeholders for sending their opinion or suggestions to GGC. Nevertheless, The policy which treated to stakeholders and completely implementation in 2018 as reported to the Corporate Governance and Sustainable Development Committee as follow:

1. Shareholders

GGC respect the fundamental rights of shareholders and treats every shareholder

equitably. These rights include the right to participate in the annual general meeting, the right to vote, the right to propose meeting agenda items, the right to nominate candidates for a directorship, and provides them with contact channels, via GGC's website www.ggcplc.com and via email at corporategovernance@ggcplc.com and ir@ggcplc.com, as previously disclosed under Shareholders Rights and Equitable Treatment of Shareholders. Moreover, under the operating of 2017–2023 CG Roadmap to enhance corporate governance on a par with international standard and in line with the commitment to reach the regional and international levels which taking into account of shareholders' satisfaction and value added to the business that directly affected through shareholders.

2. Customers

GGC is committed to bringing about customer satisfaction and confidence through the development of good products and services, reasonably prices and certain that our standards continue to improve, maintaining customer's confidentiality, and implement a customer relationship. We have organized a distribution and technical support department to responsible of customers and business partner through the purchasing and selling feedstock and products. Furthermore, we also have established a customer good practice under good corporate governance and business code of conduct to accomplish a responsible to business partner equitably, transparent and accountable.

3. Business Partners

GGC recognized the equality and integrity in business operations and essentially protected business partners by strictly complying with law and fundamental rules based on the Business Code of Conduct. It takes actively to the improper benefit acceptance involving business partners. The Corporate Governance and Business Code of Conduct Handbook requires every levels of employees have to comply with

the policy and good practices of Anti-Corruption Policy involving all stakeholders to avert a Conflict of Interest and avoid promoting other parties or act to refrain from illegal acts. Also, GGC signs sales contracts and strictly abides completely; it constantly held meeting to evolve improvement in operations and identify guidelines for problem-solving that not follow criteria.

Moreover, GGC uses shared services of GC Group for e-Procurement and Approved Vendor List (AVL) to increase more confidence and efficiency in operation, and communicated Anti-Corruption Policy, as well as the Receiving and Offering of Gifts, Assets or Any Other Benefits Policy between GGC and business partner for acknowledgement.

4. Business Competitors

GGC treated competitors in compliance with international practices under the framework of competition laws. We adhere to principles of fair and transparent competition. We neither seek competitors' trade secret through inappropriate or dishonest means nor do we defame them by malicious accusation.

5. Creditors

GGC adhered to fairly practices according to the terms and responsibilities toward creditors, guarantor creditors, and institutional creditors by respecting on time payment and strictly implementation as committed to them and financial institutions also, performing duties to all creditors under contract terms without concealing information or facts that might harmful to the creditors. If it is impossible to fulfill any condition, the Company will immediately inform creditors to solve problems together.

6. The Public Sector

GGC believes that the public sector, one of our stakeholders, plays a key role in the success of our business. We have put in place a policy on

our conduct toward the public sector in all countries where we invest to avoid any inappropriate action and transactions. This policy is disclosed in the Corporate Governance and Business Code of Conduct Handbook. GGC is committed to our corporate compliance with the local law and governmental regulations. To obtain permits, benefits and concessions, we comply with all of the rules, regulations and laws, as well as established procedures and processes. Our contact with the public sector, including local authorities and state enterprises, is transparent. We also offer full disclosure per governmental requirements.

7. Employees

GGC focuses on developing our employees' competence with an aim of becoming a learning organization, consisting of Knowledge Sharing Activities and via email that emphasize on business operation; development of assessment forms for understanding; participation with PTT Group in sharing learning experiences and boost up GGC operation more efficient; advocate of teamwork; provision of fair compensation; maintaining a positive working environment and safety; focusing on development knowledge transfer, and ability of employees, as well as equally listening to opinions and suggestions of employees. Finally, GGC promotes its corporate culture of "Bravery, Competency, Devoted, Discipline Open minded, Environmental Stewardship", with an initial focus in 2018 on "Bravery, Devoted, Discipline" in pursuit of security and unity for future project expansion.

8. Community, Society, and Environment

GGC operates the business based on responsibilities toward communities, society, and the environment by taking into account issues such as safety, quality of life, conservative of natural resources, efficient energy consumption, taking into account the quality of life of communities and society around plants and across Thailand, The Board of Director, meeting no. 18/2018 of November 6, 2018; approved a 2019-2021 Sustainable Development

Plan, which differing the target to achieve ranking as a conceptual model organization on Dow Jones Sustainability Indices (DJSI) from 2020 to 2021 for fulfillment with DJSI's criteria.

In 2018, GGC encourage knowledge and understanding of sustainable development through every levels of employees by establishing Sustainability News, a handicapped vocational support project, initiation of Inside Out project to raise environmental awareness among employees through their display of the 3Rs (Reduce of single-use plastics, Reuse and Recycle) as well as the CSR-DIW Continuous Award for a fourth consecutive year, and achievement of the Carbon Footprint Label of products and global warming reduction label, provided by Thailand Greenhouse Gas Management Organization (TGO) (Public Organization) on September 19, 2018. Furthermore, we plan to entry a SET Sustainability Award by 2019.

Anti-Corruption

GGC intends to operate business based on transparency and accountability along Good Corporate Governance Principles. In 2018, GGC took a significant action reflecting to a commitment of combating fraud and corruption as follow:

- **CAC Certification:** GGC achievement of CAC membership on May 17, 2018, following self-assessment process, reviewed and countersigned by the Chairman of Audit Committee to complete all documents with CAC institute. We plans to let our subsidiaries/affiliate to join CAC program also.





GGC achieved CAC membership certification

- **Fraud Risk Assessment:** GGC provided Fraud Risk Assessment within the organization to analyze and assess the risk of opportunities that fraud might occur and potentially impacts of fraud in various processes. It used Risk Management form as a tool. Also, it provided training and understanding of anti-corruption to the Board of Directors, Executives and employees as detail below:

- 1) The Board of Directors: invitation of special guest speaker to promote understanding in the role of director that affect to corporate risk management, as detailed under “Board of Director Training”
- 2) Executives: encourage executives to take part in the “CG Role Model training” in conjunction with GC Group to forge awareness through business code of conduct.
- 3) Employees: GGC required employee representatives serving as risk coordinators of each department to take part in risk assessment technique training, including mitigation plan identification and setting of key risk indicators.

- **Internal Communication:** communicating of Good Corporate Governance and Business Code of Conduct took place along with a good practices for combating corruption and promoting of corporate culture “Bravery Competency Devoted Discipline Open-minded Environmental Stewardship” among Management Meeting and corporate governance news as known as “GGC CG News” was announced once a month. Employees are required to assess the “Ethic Test” in late 2018 to analyze their understanding business code of conduct and also report to the Board of Directors in the following year.
- **External Communication:** GGC communicated Anti-Corruption Policy and good practices of receiving/giving gifts, entertainment, or other benefits on the website
- **Participation with the public sector:** GGC took part with GC Group in the “Zero Tolerance 2018” activity on December 7, 2018, at Impact Exhibition & Convention Center. The event featured cooperation between Office of The National Anti-Corruption Commission (NACC), Office of Public Sector Anti-Corruption Commission (PACC), and related networks to devoted campaign of promoting virtue among the public sector and private sector regarding anti-corruption. The event was presided by PM Prayut Chan-o-cha.



Zero Tolerance 2018 event

- **Whistleblower System:** GGC set guidelines for improving its whistleblower system as a topic for increasing transparency; the topic was approved by the Corporate Governance and Sustainable Development Committee at its Special Meeting No. 4/2018 of July 9, 2018. It also received recommendations from the Office of Internal Audit, detailed as follows:

1) Whistleblower channels

GGC has improved the following channels for sending or monitoring complaints for greater efficiency and convenience:

- First channel:
Mail to Corporate Secretary or VP, Internal Audit, at 555/1 Energy Complex Building A, 4th floor, Vibhavadi Rangsit Road, Khwaeng Chatuchak, Khet Chatuchak, Bangkok 10900
- Second channel:
Tel. 66 (0) 2558 7300 ext. 7304, 7310
- Third channel:
Email: GGCVoice@ggcplc.com
- Fourth channel:
Website www.ggcplc.com (under Corporate Governance).

2) Whistleblower Procedure

GGC studied the whistleblower process of GC Group before establishing its own guidelines and process and ensuring that all complaints are compiled; workflow was also set to suit individual complaints.

3) Complaint report handling form and whistleblowers

GGC has adopted a numbering system for complaints to establish an efficient compiling standard for its nine categories of complaints to align with those on its website. Also, it required the Corporate Secretary to be responsible for complaint registering, while assigning the Internal Audit Department or another responsible unit to undertake fact-finding. In 2018, one complaint about corporate governance arose. Those that wish to file complaints can choose categories at <http://www.ggcplc.com/th/cg#whistleblower-policy>.

Whistleblower Process

1. Witnessing unethical business behaviors or illegal misconducts



2. Filing a complaint through designated receiving channels

4. Complainant's privacy protected and identity concealed, processing results returned to complainant

Number of whistleblowing cases					
Year 2018			Year 2019		
0			2		
Whistleblower					
External Reporter	Internal Reporter	Anonymous	External Reporter	Internal Reporter	Anonymous
0	0	0	1	0	1
Number of accepted cases after considering evidence witness					
0			1		
Number of wrongdoing cases					
0			1		

However, there are results of the investigation as follows:

- The Company found 1 misconduct which caused by collusion acts between some partners and GGC's employees. For such actions, the executive level have exercised their power to intervene with the intention of overriding control, which cause the operation does not comply with internal control and the company has received significant damage, which appears in Inventory Shortfall Incident section
- 1 wrongdoing case is in the process of conducting the investigation and collecting evidence.

On December 19, 2018, GGC staged a “Directors on Tour” activity under the cooperation of Internal Audit and Corporate Affairs and Corporate Secretary, featuring Prof. Dr. Kumchai Jongjakapun, Chairman of Audit Committee, and Mr. Suphit Suwagul, Director to Corporate Governance and Sustainable Development Committee, as guest speakers. Knowledge was shared to bolster employees' confidence in the whistleblower system; create intimacy between Directors and employees.



Disclosure and Transparency

The Board of Directors recognizes and values the quality and disclosure of material information based on a quality, transparency, and timeliness, including quarterly financial reports and discussion and analysis of key non-financial information via channels for reliable to access the disclosed information must be done with caution, clarity, accuracy, transparency, and accountability in concise and simple language. Material information must be regularly disclosed, positive and negative

alike, to ensure that GGC's shareholders and stakeholders are confident and receive information equitably under rules, laws, and regulations of GGC as well as related government agencies.

1. Quality of Information

GGC focuses on the disclosure of information to stakeholders based on an accuracy in order to deliver, completeness, rapidity, and transparency information to stakeholders via channels for easy, reliable access to information via SET

Portal, and www.ggcplc.com. Meanwhile, Investor Relations and Corporate Affairs and the Corporate Secretary provide information and answer questions with the following details:

- **Financial Information:** GGC ensures preparation of financial reports based on complete, factual information as required by SEC and SET and consistent with corporate governance. The information must be accurate under accounting standards via the audit of an independent auditor, with the concurrence of the Audit Committee and the Board of Directors before its publicity. The Board of Directors has also prepared a report on its responsibility for financial reports for disclosure along with the external auditor's report.

- **Non-Financial Information:** GGC discloses GGC Group's business structure, namely the structure of the major shareholder, shareholding, and report on vested interests and those of related parties relevant to GGC Group's activity management, specifically when first assuming directorships or management positions and with every change in data.

- **Directors' Information and Disclosure:** Directors and Executives involved in the operations of GGC or its subsidiaries under SET's regulations shall prepare complete reports according to required by the law, as well as related reports with accuracy, to ensure that there are no conflicts of interest in GGC's decision-making, such as reports on the interests of Directors, Executives, and related parties; reports on securities security holding and change in ownership; acknowledgment of the duties to report such security holding; reports of the internal audit, internal control, and risk management; sub-committee charters; Independence the independence of independent directors; and reports of Sub-Committee over the last year.

- **Reports on GGC's Performance:** GGC discloses information apart from that requirement of SEC and SET to shareholders and also to the public, such as investment in major projects,



GGC's operations, and projects for society, communities, and environment.

2. Channels of Disclosure Information

GGC discloses information via the following channels:

- **SET Portal:** GGC discloses information via SET Portal.
- **Website Disclosure:** Corporate information in Thai and English is regularly updated, while communication channels are made more complete.
- **External Communication:** Interviews granted by Executives to the mass media contribute to the dissemination of GGC's Vision, Mission, Strategies, Goals, Performance Outcomes and

Compliance with the practice of disclosure of information and news and expression of opinion to outsiders as stipulated by the Corporate Governance and Business Code of Conduct Handbook.

- Internal Communication: Key information is shared to employees via various forms of internal communication, including email, the intranet, and bulletin boards to inform them of strategies, directions, policies, and internal news. Then, employees can apply the information to their work, steering clear of inside information and safeguarding confidential information under the Business Code of Conduct.

3. Supervision of Internal Information

The Board of Directors values the disclosure of information and transparency by defining a policy on the use of internal information and confidentiality in the Corporate Governance and Business Code of Conduct Handbook and also on GGC's website for shareholders and interested parties. It reminds Directors, Executives, and employees to recognize the importance and comply, as summarized below:

1) Directors and Executives who are defined by SEC, counting from Vice President to a higher level have the duty to acknowledge and report changes in GGC's security holding within three working days after each change.

The Board of Directors also follows up their compliance with the Business Code of Conduct on the use of internal information. Such persons must send a copy of their portfolio change report to the Corporate Secretary for reporting to the Board of Directors at each meeting and with each portfolio change. Such persons must also disclose in the annual report portfolio changes between the beginning and the end of the year.

2) Directors and Executives will receive the letter which reminds the policy to forbid from trading of security for 30 days before the public disclosure of quarterly/annual financial statements or other information that may affect the price of GGC's securities; they must also

abstain from the trading of GGC's securities during the 24 hours after publicizing the information.

3) Directors, Executives, and employees are regularly informed regulations and policies on the use of internal information via GGC's various channels to ensure acknowledgment and compliance. Such regulations and policies also prevent the use of internal information for one's own interests or the interests of others; disciplinary punishment is clearly defined. Then, supervisors must insist or advise their own personnel on this inform. During the past there was no such offending.

- Investor Relations: GGC's Investor Relations centralizes communication and monitors information disclosure to the shareholders, institutional and minor investors, and analysts and applicable regulators. Investor Relations supervises the quality of the process of reporting financial statements, including material information that affects the prices of GGC's securities such as financial statements, performance reports, preparation of quarterly/annual Management Discussion and Analysis (MD&A), all of which represent GGC's performance and outlooks, as well as information disclosed to the public via SEC Portal to investors inside and outside Thailand for equitable acknowledgment. In addition, GGC has instituted an "Investor Relations Code of Conduct" to define its roles and good practices, which appear in the Corporate Governance and Business Code of Conduct Handbook; it also appears on the GGC website.

In 2018, GGC management regularly met with shareholders, securities analysts, investors, and employees via various activities to present performance outcomes, such as analyst meetings, roadshows, and meetings with minor investors, as summarized below:

Investor Meetings

Domestic Investors Meeting	5 times
SET Opportunity Day	4 times
Meetings with financial analysts	4 times
Meeting at the Company	8 times
Teleconferences	30 times

Information Disclosure

Disclosure via SET Portal and GGC's website	93 times
---	----------

Investors or interested parties can contact GGC for information via five channels, namely:

- 1) Mail: Investor Relations Department
Global Green Chemicals Public Company Limited 555/1 Energy Complex Building A, 4th Floor Vibhavadi Rangsit Road, Chatuchak, Chatuchak, Bangkok 10900
- 2) Phone: +66 (0) 2558-7303,
+66 (0) 2558-7345
- 3) Email: ir@ggcplc.com
- 4) Fax: 66(0) 2558-7301
- 5) Website: www.ggcplc.com

Moreover, shareholders, investors, and the public can also contact the Corporate Secretary to make inquiries on GGC via email at corporategovernance@ggcplc.com.

● **Corporate Affairs and Corporate Social Responsibility:** Consists of public relations and dissemination of information, updates, and the latest business activities of GGC Group to the media, for example:

- 1) Signing of cooperation, project, investment, and feasibility of product development agreements

- 2) The energy, industry, and economic media tour of the second Methyl Ester project construction progress
- 3) The Board of Directors site visit to an oil palm plantation in Sakon Nakhon Province
- 4) Cooperation with the Thai Biodiesel Producer Association for a press conference on the readiness for the B10 policy rollout.

GGC's 2018 Sustainability Report won a Recognition Award, presented by the Thai Listed Companies Association, SEC, and Thaipat Institute. The accolade encourages operating companies to disclose information as well as those companies striving to develop sustainability reports.

Moreover, there were field trips for making relation, queries, and clarification with communities so that they may be acquainted with projects and operations, as well as public relations activities to engage communities such as various activities, namely "A young Painter-The Unity for Sustainability, Year 2", under the topic "GGC Professional, Green and Sustainability"; a creation of organic waste management project; and a project to craft social opportunities and provide vocation for disabled people". Communication channels are also conveniently and rapidly provided via mail or email disseminated on GGC's website under "The Good Corporate Governance". Shareholders, investors, and the public can contact the Corporate Secretary for such information via corporategovernance@ggcplc.com.

Directors' Responsibility

The Board of Directors defined a policy on its own responsibilities, implemented in 2018 as follows:

1. Establishment of business policies, strategies, and directions

The Board of Directors approved and reviewed critical issues concerning GGC's operations such as the vision, mission, strategies, financial targets, risks, action plans and budgets, as well as financial KPIs and action plans to monitor efficient management operation. Goals were set and periodic monitoring was conducted by the Managing Director.

2. Corporate governance and code of conduct

The Company Established Policies on a Good Corporate Governance and Business Code of Conduct to ensure that Directors, Executives, and employees adhere to and implement them in order to enhance GGC's business operations based on efficiency, standards, ethics, transparency, and accountability, as well as fairly ensuring stakeholders' fundamental rights in order to raise up the confident and general recognition. Consequently, the Corporate Governance and Sustainable Development Committee strictly monitors GGC's operations in line with the a Good Corporate Governance and Code of Conduct, as well as law, objectives, rules, and resolutions of the Annual General Meeting (AGM), supervises and ensures the equitable benefits/rights of all shareholders, and instill the understanding of a Good Corporate Governance in mind.

3. Internal control and Internal Audit

The Board of Directors mandates that the Company and subsidiaries shall effectively have internal control system which comparable to universally accepted standard, aligned with a manageable risk appetite and taking into account on controlling environment. The Audit Committee and Internal Audit Department are tasked with performing reviews and monitoring internal audit

on a regular basis. It provides activities of efficient control, sufficient, reliable information and communication systems, both internally and externally, and regularly follows up and process the performance to reach the operational objectives, reports, and complies with the law, related rules, and regulations, as well as fostering confidence among Executives, investors, and other stakeholders of GGC. The details are disclosed in "Internal Control" section.

4. Risk management

The Board of Directors oversees the risk management system that may derail our strategic objectives. The Board of Directors assigns the Risk Management Committee to devise policies and framework of risk management, to supervise GGC's risk management in order to ensure efficiency; to assess risk that may affect GGC's objectives; to consider substantial risk that may occur on project and organization level; formulate action plans; follow up, assess, and to constantly improve plans to reduce risk to an acceptable levels; as well as to regularly report risk management performance to the Board. The details are disclosed in "Risk Management and Risk Factors" section.

5. Conflicts of interest

The Board of Directors formulated policies and guidelines for the review of transactions or potential transactions with conflicts of interest in GGC's Corporate Governance and Code of Conduct Handbook to ensure that Directors, Executives, and employees abide by them and pay attention to related or connected transactions that may violate the regulations of SEC and SET. To this end, Directors and management from the Managing Director upward and finance-related positions as stipulated by SEC were required to report their own interests and the interests of related parties to GGC. Employees were also required to report transactions with potential conflicts of interest every year. If certain

transactions cause conflicts of interest, the relevant stakeholders must report to GGC at once. GGC also devised measures to prevent conflicts of interest. Directors, management, employees, and related parties should avoid financial involvement or relationship, or both, with other outsiders potentially leading to conflicts of interest with GGC or affecting efficient operations. For conflicts of interest in hiring, selection, decision, or approval, they must report to supervisors or to those involved in approval, using GGC's report form of conflicts of interest or withdrawing from involvement in applicable processes.

6. Promotion of CSR and environmental responsibility

The Board of Directors values GGC's business operations based on responsibilities for society and the environment. By striving to reduce problems which derived from the industry promotes higher living standards of the Thai society at the same time, Enhance a better quality of life of the people around the plants, and solving a problem together. Reducing of impacts may occur to communities, respect of human rights, and fairly use of labour for the sustainable livelihood.

7. Promotion of innovation

The Board of Directors approves a research and development (R&D) plans, requiring an updates on GGC's R&D reports from the R&D Department in order to create value added to products and develop technology to increase competitiveness from existing assets, recruit researchers and experts to lay down the R&D foundation for higher efficiency, as well as consulting with Marketing Department to use an information for developing future products.

8. Information technology (IT)

The Board of Directors devises a framework for IT monitoring and management in line with GGC's operations in order to increase potential

and business opportunities. The practice of monitoring of IT includes installation of data's security system, assessment and review of information technology risks that may affect GGC, reports the update of information systems through management meetings, and allocation of qualified employees to inform the operation for higher efficiency.

In addition, GGC has planned to allow the Board of Directors to access conveniently to access Information through e-Meeting system.

Board of Directors and Committees

Board of Directors

The Board of Directors comprises of eleven (11) members, which five are independent directors. All directors are experts from various fields of knowledge, ability, and experience. The combination of their skills qualification and experiences bring about advantages to GGC. They must also devote themselves in their duties for the utmost benefit of GGC and shareholders. They are recruited and elected under appropriate criteria. Their roles and responsibilities are founded on Law, Regulations and Articles of Association, Meeting Resolutions, shareholder meeting resolution and corporate governance principles. Directors duties and responsibility are effectuated in way that steer them from conflicts of interest with GGC, so as to foster confidence among the shareholders and the investors. The structure of the Board as appear in Management Structure allow them to efficiently perform their duties. The number of Directors suits the size and types of business, and is approved by shareholders.

Sub-Committees

Board of Directors has established 4 sub-committees namely the Audit Committee, the Nomination and Remuneration Committee, the Corporate Governance and Sustainable Development Committee, and the Risk Management Committee. All members are expertise and having appropriated experiences for performing to each sub-committee's

responsibility which is indicated in the GGC's Articles of Association. Their responsibilities are to consider related issues within assigned scopes. Members' qualifications, tenures, scope of duty in accordance with each sub-committee charter. The names of Directors to sub-committees, responsibilities, numbers of each sub-committees meeting and meeting attendances of each Director appear under "management structure"

In addition, the Board of Directors Meeting no.6/2018 dated June 8, 2018 approved the appointment of the Fact-Finding Taskforce in order to investigate the inventory shortfall incident. The Fact-Finding Taskforce consisted of 4 Directors, namely Mr. Athavudhi Hirunburana, Ms. Kannika Ngamsopee, Prof. Dr. Kumchai Jongjakapun and Mr. Suphit Suwagul, and 2 employees from management levels. The assignment period was in between June – August 2018. Later, the Disciplinary Investigation Panel had been appointed dated on August 14, 2018. It consisted of 1 Director, Mr. Apichart Jongskul, and 4 employees from management levels. Its assignment period was between August 14, 2018 – December 12, 2018.

Besides, GGC appointed the Human Resource Management Committee on July 26, 2018 in order to advise and oversee GGC to manage its human resources efficiently and in line with current situation as well as support GGC's Growth. The Human Resource Management Committee consist of 3 Directors namely Mr. Suphit Suwagul, Mr. Athavudhi Hirunburana and Mr. Sekxon Arttmangkura. Its assignment period was 1 year effective from the appointment date.

Nomination and Appointment of Directors and Top Management

Nomination and Appointment of Directors and Independent Directors

The Board of Directors appoints the Nomination and Remuneration Committee with the responsibility of recruiting and selecting persons with knowledge, ability, expertise, experience, and specific

qualifications beneficial to aligns with GGC's business strategies. When a Director position becomes vacant or when the term limit of a Director is due, shareholders are provided with the opportunity to nominate a qualified person for the vacant seat apart from the Board Skill Matrix and IOD's Director's Pool to ensure that the composition of the Directors are complete with maximum advantages to GGC, taking into account the conflicts of interest of Directors based on holistic view and transparency. The guidelines of the appointment of Directors are as follows:

Board of Directors

- **Recommendations on the Appointment of New Directors:** Consideration is based on composition such as qualifications complying with relevant law and regulations, expertise, ability, and experience in various professional fields which advantage to the duties of Directors and the composition of the structure of Directors complying with strategies of business operations. Consideration is based on the Skill Matrix of engineering, economics/finance, accounting, business administration, security and social science, law, strategic planning, agriculture, and natural resources and environment to combine the knowledge and ability beneficial to GGC's operations. Also considered interests or conflicts of interest may occur.
- **Recommendations on the Appointment of Current Directors:** The performance of the previous year, dedication, and involvement in activities of each Director will be taken into account.

Independent Directors

The recruitment and appointment of independent Directors is considered in terms of the number of Independent Directors in the composition of the Board of Directors in compliance with SEC's regulations. There are now five Independent Directors out of 11 members. Independent Directors are defined and qualified as independent in accordance with the criteria in the Corporate Governance and

Code of Conduct Handbook and disclosed on GGC's website.

Recruitment and Appointment of the Managing Director

The recruitment of the Managing Director in case of vacancy will be considered by the Nomination and Remuneration Committee from the ranks of those with skill, experience, professionalism, specific qualifications in various fields that are necessary and beneficial to GGC's business operations, pending the approval of the Board of Directors as follows:

- Directorship under GGC's Articles of Association
- Knowledge and ability in business operations
- Experience in related Business
- Experience in organizational leadership
- High level of leadership
- Recognition by related business entities.

Roles of the Chairman and the Managing Director

The Chairman and Managing Director must never be the same person, with different roles and duties as follows:

The Chairman supports the management's operation. Although not an independent director, the Chairman is not involved in day-to-day management and is free to exercise his/her discretion in decision-making. His/her main roles are as follows: supervise the committees for efficiency and independence from the management, which aligns with the CG Code; set up meeting agenda items under the joint responsibility of the Board of Directors and the Managing Director, who serves as Board of Directors secretary; perform the duty of Chairman of the Board of Directors meetings and Annual General Meetings with efficiency; encourage all Directors to participate in meetings; ensure that all Directors adhere to Corporate Governance principles and the Business Code of Conduct; and take responsibility for shareholders and related stakeholders. Also, the Chairman does not serve on the committees, as defined by the scope of duties of the Board of Directors and all Committees

for clear and appropriate separation of duties and operation. As for independence, the current Chairman performs his duty with prudence and independent discretion, with high leadership in GGC's best interests.

The Managing Director is the Top Management, selected and appointed by the Board of Directors from Directors according to GGC's Article of Association. He/she is responsible for corporate management under policies, action plans, budgets, and authority assigned by the Board of Directors and stipulated by GGC's Articles of Association. The Managing Director also serves as Board of Directors secretary, and his duties are publicized on GGC's website. The Articles of Association also state that the Managing Director earns compensation and benefits as the top corporate executive, based on the Board of Directors' annual appraisal, on top of those of a Director.

Board of Directors Meetings

As a rule, the Board of Directors schedules in advance the date and time for its meetings for a given year. It also clearly sets the agenda of each meeting and may call for a special meeting as seen appropriate and necessary. The Board of Directors receives meeting notices, draft meeting minutes, and supporting documents for consideration at least seven days before the meeting. This year it held 13 meetings and held 8 special meetings.

In chairing Board of Directors meetings, the Chairman allows all Directors to participate and freely express views. In Board of Directors meetings, there must be at least two-thirds of the Directors in attendance to constitute a quorum, and the quorum must remain the same until voting time. The resolutions of Board of Directors meetings are based on the majority of the votes; one Director carries one vote. If the vote are equal, the Chairman shall cast the decisive vote. The Board of Directors manages conflicts of interest of related parties with prudence, fairness, and transparency by making complete Disclosure of the information. If a Director is involved in conflicts of interest of the issue under consideration, such Director must abstain from decision-making on such issue.

After each Board of Directors meeting, the Corporate Secretary prepares meeting minutes and submits them for Board of Directors approval as the first agenda item of the next meeting. The Chairman then provides his signature to verify the accuracy. The approved meeting resolutions are systematically filed in electronic form as confidential documents, with documents accompanying agenda items for ease of retrieval reference.

To ensure compliance with Corporate Governance, the Board of Directors also requires meetings of non-management Directors for their opinions and guidelines for GGC's management and operation, as well as an annual meeting of Independent Directors to exchange views and review their roles

and duties. In 2018, there was one meeting of Non-management Directors and one meeting of the Independent Directors. The results of the meetings were submitted to the Board of Directors for acknowledgment every time.

For convenience and swiftness in communication between the Board of Directors and the Corporate Secretary, GGC uses the LINE Application system to communicate with the Board of Directors about issues relating to meetings and other key issues. Also, to cut down on paper consumption, GGC has changed its mode of meeting document transmission from hard-copy delivery to email transmission.

Board of Directors Performance

Board of Directors

In 2018, an assessment review of the Directors' performances was conducted so that the Directors might annually review their performances, problems, and obstacles. There were 3 types of assessment, namely the group assessment, self-assessment, and cross-assessment of other Directors. The scores were divided into 5 levels. The overall performance summary was submitted to the Board of Directors and disclosed in the annual report. GGC improved the questions and assessment criteria in compliance with the guidelines of the Board of Directors assessment as well as good practices, including the CG Code for listed companies issued by SEC. Assessment is applied to partly consider Directors' annual compensation in addition to GGC's performance. It submitted the assessment findings to the Board of Directors, which acknowledged them and submitted the recommendations arising from the assessment to devise guidelines to concretely improve the Board of Directors operation.



- **Assessment of the Board's performance (entire Board):**

The assessment comprised of six categories:

- 1) Board Policy
- 2) Board Performance
- 3) Board Structure
- 4) Board Style
- 5) Board Meeting
- 6) Board Development

The Directors who underwent this assessment were Directors as of November 2018 (11 in total).

Group assessment score of 89.95%

- **Assessment of individual directors' performance (self-assessment):**

The questions consisted of

- 1) Responsibility for Duties
- 2) Independence
- 3) Self-development and Teamwork.

Self-assessment score of 91.68%

- **Assessment of individual directors' performance (cross-assessment):**

The questions consisted of

- 1) Knowledge and Expertise
- 2) Independence
- 3) Devotion and Meeting Attendance.

Cross-assessment score of 91.26%

Sub-Committees

The Sub-Committees consist of the Audit Committee, Nomination and Remuneration Committee, Corporate Governance and Sustainable Development Committee, and Risk Management Committee. The performance assessment of the Sub-Committees, both group and individuals, was conducted for all. Questions were reviewed by all before the assessment this year.

- **Audit Committee:** The assessed topics consisted of the Charter of the Audit Committee, composition, meetings, training and resources, responsibilities, and relationship with the head of Internal Audit, External Auditor, shareholders, and maintenance of work quality.

Committee's assessment with an average score of 92.27%

Individual assessment with an average score of 91.85%

- **Nomination and Remuneration Committee:** The assessed topics consisted of composition and qualifications, scope/duty, meetings, reports, and performance assessment.

Committee's assessment with an average score of 91.14%

Individual assessment with an average score of 90.51%

- **Corporate Governance and Sustainable Development Committee :** The assessed topics consisted of composition and qualifications, scope/duty, meetings, reports, and performance assessment.

Committee's assessment with an average score of 94.17%

Individual assessment with an average score of 94.54%

- **Risk Management Committee:** The assessed topics consisted of composition and qualifications, scope/duty, meetings, report, performance assessment.

Committee's assessment with an average score of 86.41%

Individual assessment with an average score of 83.17%.

The Nomination and Remuneration Committee relies on the performance assessment of the entire Board for partial consideration of Directors' remuneration in 2018 apart from GGC's performance and other consideration criteria.

Development of Directors and Management

The Board of Directors emphasizes the development of Directors' knowledge and ability to promote its operation with higher efficiency and the Executives development to equip them with the readiness to rotate within the corporation and to succeed to the positions of Managing Director and other Executives. Consequently, the Board of Directors emphasizes on training, seminars, courses relating to the duties of Directors and Executives assigned to be directors of Subsidiaries, as well as the potential assessment of Executives to develop readiness in performing duties at the executive level as follows:

Directors' Orientation

The orientation includes a presentation of the business and information, guidelines to GGC's business operations, related law, rules and regulations, Corporate Governance, the Business Code of Conduct, and other useful information for the assumed position. Directors also receive handbook and other documents, such as strategic plans, company regulations, Article of Association, Annual Reports, related regulations, and Corporate Governance and Business Code of Conduct Handbook.

Training for Directors

GGC encouraged training program for Directors in accordance with the Board Skill Matrix by supporting all Directors' pursuit of additional education and training to constantly enhance their knowledge to support the business, as follows:

1. All Board of directors have passed courses relating to directors' work, organized by Thailand Institute of Directors (IOD) and leading institutes, as listed in this table.

No.	Name	DCP	DAP	ACP	ELP	RCP	CMA	TEA
1.	Mr. Supattanapong Punmeechaow	131/2010				30/2013		Class 4
2.	Prof. Dr. Kumchai Jongjakapun	128/2010		38/2012		34/2014	Class 9	
3.	ACM Songtam Chokkanapitag	227/2016						
4.	Mr. Payungsak Chartsutipol		SCC/2004				Class 11	Class 1
5.	Ms. Kannika Ngamsopee	21/2002					Class 3	
6.	Mr. Patiparn Sukorndhaman	73/2006						Class 7
7.	Mr. Athavudhi Hirunburana	79/2006						
8.	Mr. Apichart Jongskul	109/2008					Class 17	
9.	Mr. Suphit Suwagul	177/2013			13/2018			
10.	Mr. Narongsak Jivakanun	165/2012					Class 8	
11.	Mr. Sekxon Arttamangkura (Appointed on August 1, 2018)	229/2016						

DCP : Director Certification Program
DAP : Director Accreditation Program
ACP : Audit Committee Program
ELP : Ethical Leadership Program

RCP : Role of the Chairman Program
CMA : Senior Executive Course, Capital Market Academy
TEA : Senior Executive Course, Thailand Energy Academy

2. GGC organized knowledge-sharing seminars for the Board of Directors on the following topics:
- A talk on “Downstream Industry to the Bio-Complex Project” on March 14, 2018, where its management and researchers from the R&D unit took part in the lecture for the Board of Directors to grasp GGC’s business approach and product development.
 - A seminar on “Board of Directors’s Roles in Monitoring and Driving Corporate Risk Management” on September 12, 2018, led by Asst. Prof. Prasert Akharapathomphong from the Department of Industrial Engineering, Faculty of Engineering, Chulalongkorn University. Held at the request of Directors who desired a forum for skill, expertise, and experience sharing among Board of Directors, the seminar enhanced expertise and mastery for the Board on the management of related risks.
 - A talk on “Investment in the Nakhon Sawan Biocomplex Project” for the Board of Directors on November 21, 2018, led by GGC management and designed to enhance expertise on the sugarcane industry, ranging from sugarcane procurement, investment, production, public utility systems, to waste treatment systems.



“Board’s Roles in Monitoring and Driving Corporate Risk Management” seminar

Corporate Secretary’s Training

The Board of Directors encouraged the Corporate Secretary to undergo continual training and expertise development, which would benefit her performance in its support. In 2018, the Corporate Secretary underwent IOD’s Director Accreditation Program (DAP), Class 155/2018, to develop primary knowledge about the position’s legal duties and responsibilities.

Succession Plans

Preparing the readiness of employees and successors, GGC has systematic succession plans in place for positions crucial to the operation, using talent grouping 360-degree Executive Evaluation and Assessment Centre that gauges leadership competency organization knowledge, and formulate the effective individual development plan. Moreover to support business expansion and organizational structure change and replacement of retirement, this will effectively contribute to the achievement of strategic goals. As a consequence, GGC sets up a Succession Plan for the positions that will become vacant due to retirement/transfers. Those who will be considered for the succession will be systematically ready for the positions in a timely manner.

Supervision of GGC and GGC Subsidiaries

GGC conducts its business through subsidiaries, the details of shareholding in this entities appear under Shareholding Structure. GGC operates in conformity with the Business Principle and the GC Way of Conduct, as summarized as follows:

- The Managing Director shall have the authority to formulate policies, announcements, criteria, operating practices, managerial practices, has the authorities to approve and sign to perform duties as necessary, except salary structure, recruitment, appointment from Vice President upward, where approval must be sought from the Board of Directors.

- Major policies such as Corporate Governance Policy, Whistleblowing Policy, Anti-corruption Policy, and the other related policies that align the operations with the regulations of Securities and Exchange Commission of Thailand, Stock Exchange of Thailand, and related laws, rules and regulations.
- Supervises subsidiaries or persons who are assigned to take charge of subsidiaries may comply to Related Parties Transaction Policy, Filing of information, and accounting entry booking for the Company to check and consolidates financial statement on time.

Implementation of Corporate Governance 2017

At the Board of Directors Meeting No. 21/2018 of December 20, 2018, the Board of Directors received a recommendation of the Corporate Governance and Sustainable Development Committee that it adopt a modified version of the CG Code issued by SEC, for the Board of Directors examined and recognized its primary role as the leader of the organization in creating sustainable value for the business.

The Board of Directors assessed the practical guidelines under GGC's CG Code to ensure genuine corporate compliance with the Business Code of Conduct. In addition, GGC practices that differed from the CG code were examined for substitute guidelines for use in GGC's business context. The decision was recorded as a Board of Directors resolution, with effect from 2019.

Also, the Board of Directors examined the following additional guidelines for adoption in place of compliance with the CG code, as detailed below:

1. Independence of Chairman

The Chairman has efficiently supported the management's operation. Though not an Independent Director, he has freely expressed ideas about the management's operation and has taken no part in day-to-day business operation.

2. Independence of the Nomination and Remuneration Committee

3 Directors constitute the Nomination and Remuneration Committee, at least one of Directors is independent; its Chairman must be an Independent Director. GGC has regularly reviewed their suitability, competencies, and experience for alignment with the committee's charter.

3. Establishing succession plans

Each year GGC requires development and appraisal of the Managing Director and top management to guide deliberation about their successors should these posts become vacant.

In addition, it was GGC's honor that the Director of Good Governance Development & Alliance Department, the Stock Exchange of Thailand (SET) shared knowledge in order to improve good Corporate Governance. Examples are new CG Code, Way of Conducts, Company adjustment for an unexpected situation, and recommendations for management team focusing on the concept of Tone from the Top.

Compliance with Corporate Governance on other Matters

In 2018, GGC completely and continuously complied with a Good Corporate Governance principle which is summarized below:

Promotion of Awareness

The management and employees attended a talk on "Corporate Governance: Foundation of Sustainable Business Development", given by a speaker from SET and designed to promote and forge awareness of corporate-wide implementation of the 2017 CG Code for listed companies.

Sustainability Actions

At the Boards of Directors Meeting No. 18/2018 of November 6, 2018, the Board of Directors acknowledged actions on its sustainability development:

- Appointment of GGC Group's Sustainable Development Committee, chaired by the Managing Director and designed to steer business undertaking for sustainable progress in economic, social, and environmental aspects and for acceptance by all stakeholders, including national and international sustainable development entities.
- Setting of strategic plans and social responsibility management covering three aspects, namely social recognition, CSR growth, and stakeholders' trust so as to align with its strategic plans for sustainable development, including an organic waste management project; Young Painters-Green at Heart and Unity for Sustainability, Year 2; and a project to craft social opportunities and support the disabled people's vocation.

Board Skill Matrix

GGC improved the Matrix of directors' knowledge and skills so as to develop their competencies in needed areas so that their qualifications may align with GGC's business approach and DJSI criteria.

Charters of Committees

GGC improved the Risk Management Committee Charter, widening its scope of duties to include instances of subsidiaries or other businesses with significant investment, and including The Risk Management Committee should include the risk management assessment outcomes in its deliberation.

CG Roadmap and Sustainable Development Plan

- At its Meeting No. 1/2018 of February 6, 2018, the Corporate Governance and Sustainable Development Committee acknowledged the CG Roadmap for 2018.
- At its Meeting No. 2/2018 of June 18, 2018, the Corporate Governance and Sustainable Development Committee acknowledged a report on sustainable development for 2017–2020 and targeted DJSI assessment by 2020.

- The Board of Meeting No. 18/2018 of November 6, 2018, approved amendment of GGC's sustainable development plan as part of its business overview for 2016-2021, extending the DJSI assessment goal from 2020 to 2021.

Report of the Corporate Governance and Sustainable Development Committee

- The Corporate Governance and Sustainable Development Committee Charter stipulates that the committee report its performance to the Board of Directors for acknowledgment and prepare the report in GGC's annual report, counter-signed by the Chairman.
- The Meeting No. 5/2018 of December 28, 2018, of the Corporate Governance and Sustainable Development Committee approved the report of its performance for submission to the Board of Directors and publicity in the annual report.

Criteria for the Rights of Shareholders to Nominate Agenda Items and Directors

- Board Meeting No. 16/2018 of September 12, 2018, acknowledged reduction of the proportion threshold for entitling shareholders to nominate meeting agenda and Directors in advance at the 2019 AGM, from no less than 5% to no less than 4%. This new rule will be adopted for the window of opportunity from October–December 2018.
- GGC publicized on its website for the shareholders the rights and procedures to nominate agenda items and directors in advance.

Minutes of Board Meetings

The minutes of Board of Directors meetings are submitted to the Board under SET regulations (14 days ahead of each meeting) to allow the Board of Directors enough time to review and revise the information in the minutes and return questionable points to GGC for amendment and for additional recommendations (if any). This has been the practice since 2017.

The Board of Directors recognizes its roles and responsibility as the leader that contributes sustainable value to the organization. To this end, it defines GGC's objectives and key goals for sustainability, in compliance with the CG Code. Any non-compliant guidelines (past or present) will be reviewed by the Corporate Governance and Sustainable Development Committee and included as part of the CG Roadmap 2018. That way, the CG Code will find suitable modification in GGC's business context and will be proposed to the Board of Directors for final guideline-setting.

Head of Internal Audit Department and Operation Monitoring

Head of Internal Audit

The Board of Directors' Meeting No. 8/2017 on December 21, 2017, the Audit Committee considered on and approved the appointment of Ms. Kunakorn Witthayapaisarn to Vice President, Internal Audit, and as the new secretary with effect from January 1, 2018. She underwent training in all courses relevant to her internal audit duties.

The appointment, dismissal, and transfer of the Vice President of Internal Audit must be approved by the Audit Committee as specified in its charter.

Head of Compliance

The Board of Directors assigned Ms. Uramanee Puttong, Vice President of Corporate Affairs and Corporate Secretary, to be responsible for Corporate Compliance with Laws, Rules and Regulations. She advocates compliance by the management and employees, as well as those of GGC Group companies, with the laws and regulations of its invested companies.

The Corporate Secretary attended IOD's senior management development courses to promote job efficiency, as stated under "Corporate Secretary Training".

Personnel Management and Development Policy

Striving to become a learning organization with a friendly work culture and teamwork, GGC provides its employees with a safe and supportive work environment, fair compensation, knowledge and skill development. By equitably listening to recommendations from all while cultivating GGC's corporate culture, it instills their awareness that GGC values their development, and their contribution to the achievement of its success and sustainable growth.

Besides forging business growth, GGC's competency and competitiveness enhancement plan is in place to enable its employees to tackle potentially rapid changes. To ensure the accomplishment of its objectives and harmonized efforts toward the same goals, the top Management take part in encouraging personnel to develop their competencies, learn and share knowledge, and work as a team by providing personnel development technology and tools.

GGC's policy on performance appraisal system consists of annual goal setting, mid-year performance monitoring, and annual performance appraisal. For transparency and fairness, supervisors and employees are required to regularly discuss work performance, at least twice each year.

For such system to be efficient and fair, GGC has instituted a peer review process, in which Executives hold meetings to review employees' performance outcomes so that they truly suit employees' abilities and clearly display core behavior under corporate values. This way, employees that are talent and conscientious may be retained.

As for employee development, GGC requires competency and IDP appraisal to identify individual gaps and formulate individual development plans (IDPs). Supervisors are required to analyze appraisal data and identify tools or methods to individually maximize their employees' own potential, covering Functional and Leadership competency.

GGC focuses on training under curricula that align with its development plans through activities and projects aligning with the 70:20:10 (Experience: Exposure: Education) approach. These include on-the-job training, project assignment, leadership development programs, and knowledge sharing.

GGC provides internal and external training in support of its strategies. It designed a Leadership Development Roadmap for all Executives and employees so as to enhance their management skills for leadership and business perspectives. In addition, to enhance their skills while establishing networks in GC Group, GGC delegated Executives and its employees to GC's development of management skills.



Providing internal and external training to employees to support the Company strategy

In support of safety, occupational health, the environment, and energy conservation, GGC focuses on skill and knowledge development through internal training for all employees, this year covering 27 curricula, which accounted for 62.80% of its internal training. These included Energy Awareness, ISO 15001, Digitization Hackathon Workshop, and Absorption Chiller.



Providing internal training for all levels of employees
in total 27 curricula

GGC provides career plans for those considered ready, particularly those in the Talent and Successor groups, to accelerate their development grooming for future management or targeted positions. To this end, systematic job rotation is focused on in all career paths under the designed IDPs or career plans. This supports corporate development policies.

Concerning staff preparation (both in number and quality) for project assignments, GGC plans its manpower and readies personnel for corporate growth to new businesses.

In 2018, GGC expanded its recruitment through social media like Facebook, where “GGC Recruitment” advertises job vacancies and provides job application data for outsiders. This is another channel for public relations.



Using social media via Facebook Page
“GGC Recruitment”

GGC also devises several projects to recruit quality employees, including the Employee Referral Program (ERP), designed to recruit suitable applicants for job positions with few qualified applicants and stiff competition. To elaborate, GGC provides rewards to employees that refer suitably qualified people to GGC. In addition, GGC took part with GC Group in the Young Talent Camp and Career Day to popularize itself while widening its candidate pool.



GC Career Day, November 10, 2018
Marriott Sukhumvit Hotel, Bangkok



GC Career Day, August 17–19, 2018
Marriott Sukhumvit Hotel, Bangkok

Corporate values: GGC is committed to cultivating its corporate values to unify employees while establishing a corporate driving force toward the goal “to be a leading Green Chemical Company by Creating Sustainable Value” as the green flagship for GC Group. To this end, it constantly promoted knowledge, understanding, and implementation through key behavior: Bravery, Competency, Devoted, Discipline, Open-Minded and Environmental Stewardship. In 2018, it focused for earnest implementation on Bravery, Devoted and Discipline. Below are its key actions:

- Set up a Culture Team, consisting of Division Manager representatives from all department so as to drive the corporate culture from superiors to the rank and file.
- Set up a Culture Driver Team, consisting of representatives from all units to ensure awareness

of corporate culture cultivation via key behavior; also, the team would enable communication and key-behavior driver in each unit.

- Mapped out a communication plan and stage activities focusing on implementation of three key behaviors, namely Bravery, Devoted, and Discipline, with links to Corporate Governance and internal control.
- Proceeded with mapping of the behavior assessment topic (part of performance appraisal) in line with GC Group’s GC SPIRIT to ensure measurement and true implementation.
- Linked main behaviors to GGC’s HR management system through the likes of personnel recruitment, performance assessment, and promotion and appointment systems.

Report of the Risk Management Committee

Dear Shareholders,

The Risk Management Committee emphasizes and closely monitors the execution of risk management by defining GGC's risk management scope in its business aspects to accommodate GGC's internal and external circumstances, controlling the risk management practice into acceptable and appropriate level under good corporate governance, and executing the risk management processes to allow such management to proceed with efficiency and the corporation to achieve its business goals.

In 2018, the committee fulfilled the Board-assigned scope, authority, and responsibilities, as highlighted below.

- Relentlessly drove and monitored corporate risk management on year 2018 while offering its recommendations for developing risk management to ensure that GGC covers all key aspects; also, devised mitigation plans for all situations potentially affecting corporate businesses.
- Revised and endorsed the corporate risk management frameworks, namely those of inventory and foreign exchange rates, to mitigate impacts of volatile feedstock prices and exchange rates; also, closely monitored implementation under risk management frameworks, namely those of product-feedstock prices and price spreads, inventory, and exchange rates, as well as risk management criteria for project investment—all for efficient risk management.
- Screened, commented, and provided recommendations on year 2019's corporate risk factors to align them with the prevailing business outlook as well as evolving critical international and domestic circumstances compatible with GGC's key operating goals.
- Provided recommendations on risk assessment and risk management measures for key corporate investment projects prior to the Board of Directors project investment decisions.
- Revised and endorsed amendments to its own charter and the risk management policy to enable such management to proceed efficiently, suit GGC's businesses, and align GGC's practices with SEC's corporate governance principles while encompassing the risk management oversight of GGC's affiliates, GGC Group's affiliates, or other significant investment by GGC.
- Advocated employees' awareness of risk management, understanding and conformance to risk management policies, and review of risk assessment potentially affecting work processes to ensure accommodating measures for key risk management; to this end, risk management was included in all employees' job descriptions.
- Advocated a risk management culture and promotional learning activities concerning the significance of corporate-wide risk management from the level of the Board of Directors, Executives, and employees.
- Assessed its own performance as a group and as individuals.

The Risk Management Committee completely fulfilled its scope, authority, and duties stated in its charter in regularly governing, screening, providing recommendations, and monitoring corporate risk management. These not only enable GGC to fulfill its objectives and goals, but also supplement value to its shareholders and stakeholders.

On behalf of the Risk Management Committee

(Signed) Kannika Ngamsopee
(Ms. Kannika Ngamsopee)
Chairman of the Risk Management Committee



Report of the Nomination and Remuneration Committee

Dear Shareholders,

The Nomination and Remuneration Committee consists of ACM Songtam Chokkanapitag (Chairman), Mr. Patiparn Sukorndhaman and Mr. Athavudhi Hirunburana as member. The committee held a total of four meetings during 2018, the Nomination and Remuneration Committee performed its duties set forth in its own charter as well as board-assigned duties, as highlighted below.

Nomination of Directors

- Nominated Directors replacing those due to retire by rotation at the 2018 Annual General Meeting, allowed the shareholders to nominate Directors three months prior to the Annual General Meeting. In the absence of such nominees, it nominated Mr. Supattanapong Punmeechaow, Mr. Athavudhi Hirunburana, Mr. Apichart Jongskul, and Mr. Payungsak Chartsutipol, all of whom qualified with experience, skills, and suitability to GGC's businesses, for another term, to which the Annual General Meeting approved.
- Nominated Directors replacing the resigned Directors, by nominating Mr. Sekxon Arttamangkura, citing his expertise and specialized experience considered helpful to his performance against the criteria for Director nomination by the Board of Directors.
- Proposed Mr. Sekxon Arttamangkura for vacancy on the Risk Management Committee, it reviewed such committees' compositions stated by The Securities and Exchange Commission, Thailand (SEC) and The Stock Exchange of Thailand (SET), GGC's Articles of Association, and Committee Charters in addition to his qualifications, expertise, skills, and specialized experiences considered helpful to their committee duties.
- Reviewed Mr. Sekxon Arttamangkura for his position as Managing Director, it considered the components specified by The Securities and Exchange Commission, Thailand (SEC) and The Stock Exchange of Thailand (SET), GGC's Articles of Association, and other qualifications, expertise, skills, and specific experiences useful for his position.

Remuneration

- Proposed the 2018 remuneration for the Board of Directors and Sub-Committees, including bonus based on GGC's performance of 2017 by comparing to current economic circumstances, the Board of Directors responsibilities, and remuneration of other companies of similar size. The Board of Directors then endorsed their proposals for the 2018 Annual General Meeting and unanimously approved by the shareholders.
- Reviewed the assessment of the Board of Directors performance criteria and the Managing Director compensation, based on the 2018 performance in the position and against his duties and responsibilities. It then sought approval from the Board of Directors.

Board of Directors Performance Appraisal in 2018

- Reviewed and revised 2018 Board of Directors performance appraisal form for completeness, timeliness, and alignment with standards. The revised form became part of the Board of Directors' annual compensation setting, complementing GGC's performance.
- Launched its own performance appraisal annually and reported the assessment to the Board of Directors.

Consideration of the Managing Director's KPIs

- Set the Managing Director's KPIs compatible with GGC's business and circumstances.

Performance Improvement and Development

- The Nomination and Remuneration Committee reviewed and improved the Skill Matrix to make it more diverse and suitable for businesses which is part of the nomination process.
- Defined criteria for Director Nomination, criteria to review a qualifications, and the selection process for individuals who qualify to be nominated as Director in compliance with applicable laws and regulations to enable shareholders to nominate Directors three months prior to the Annual General Meeting
- Ensured the complete disclosure of nomination criteria and compensation data in the annual report and at the Annual General Meeting completely comply with Corporate Governance Report (CGR) criteria.

The Nomination and Remuneration Committee performed its duties with prudence, transparency, under Good Corporate Governance principles to boost the confidence of all shareholders and stakeholders, which will supplement long-term value to GGC.

On behalf of the Nomination and Remuneration Committee

(Signed) ACM Songtam Chokkanapitag
(Songtam Chokkanapitag)

Chairman of the Nomination and Remuneration Committee



Report of the Corporate Governance and Sustainable Development Committee

Dear Shareholders,

In 2018, the Corporate Governance and Sustainable Development Committee is comprised of Mr. Payungsak Chartsutipol (Chairman) with Mr. Athavudhi Hirunburana and Mr. Suphit Suwagul as members—performed their duties and giving their opinion under their scope which stated in its own charter and executed the tasks mandated by the Board of Directors. A total of five meetings including one special meeting were held with the following highlights.

Good Corporate Governance

- Endorsed the Corporate Governance Roadmap for 2017–2023 in line with corporate strategies by providing recommendations for adjustment of details to enable GGC to efficiently monitor compliance with its Corporate Governance plans.
- Revised the Corporate Governance and Business Code of Conduct Handbook to align with a Good Corporate Governance Code for Listed Companies of The Securities and Exchange Commission, Thailand (SEC).
- Provided comments on improving whistleblower handling process for more efficiency, namely improvement of the whistleblower policy, reporting form, and complaint procedure; drove communication to establish understanding and awareness of the process, together with the protection of complainant and confidentiality of their names so that employees may become more confident in the system.
- Provided useful recommendations for the arrangement of Annual General Meeting (AGM) that are successful and efficient, abide by Good Corporate Governance principles, and strictly align with the AGM Checklist. From the quality assessment of our organization of the 2018 Annual General Meeting of Shareholders conduct by the Thai Investors Association (TIA), GGC received a perfect score of 100, or outstanding level.
- Provided recommendations on the self-assessment form for Thailand Private Sector Collective Action Coalition Against Corruption (CAC) participation and oversaw compliance with the Anti-Corruption policy to ensure that GGC values Anti-Corruption and collaborates to widen resistance to corruption.
- Provided recommendations on self-assessment for Corporate Governance Report (CGR) participation for year 2018 under Organisation for Economic Co-Operation and Development's (OECD) principle so as to promote shareholders' confidence in GGC's corporate governance.

Sustainable Development

- Reviewed the Corporate Sustainable Development Plan for 2016–2021 in line with corporate strategies, recommended that GGC value operating processes, internal control, self-assessment for information gathering ahead of assorted project participation, and development of internal projects for greater public confidence; also, advised GGC to appoint sustainable-development Change Agents to exemplify principles for knowledge promotion and behavior among employees.
- Monitored the reporting of sustainable development outcomes provided, advised the Management to specify a sustainable development goals (SDG) in corporate KPI to boost confidence in yearly achievement.

Compliance with Applicable Laws and Regulations

- Set guidelines for Directors' and Executives' reporting of their securities portfolios in compliance with The Securities and Exchange Commission, Thailand (SEC) guidelines together with communication channels and methods to keep the Board of Directors informed of critical data or intelligence.
- Reviewed and modified criteria for entitling shareholders to nominate meeting agenda and Directors three months ahead of the 2019 AGM (from October 1 to December 31, 2018) so as to promote shareholders' rights and equitability.

Performance and Appraisal

- Revised its own charter to ensure continued relevance and in line with good practices.
- Assessed its own performance outcomes to ensure fulfillment of the scope of its charter.
- Planned its own meeting dates for the entire year to review and acknowledge matters; also, held additional urgent meetings during major incidents.

The Corporate Governance and Sustainable Development Committee performed its duties with prudential and transparency under Good Corporate Governance and remains committed to furthering its efficiency concerning corporate governance, social responsibility, and sustainable development practices provide confidence to ensure all shareholders and stakeholders of its long-term value addition to GGC.

On behalf of the Corporate Governance
and Sustainable Development Committee

(Signed) Payungsak Chartsutipol
(Mr. Payungsak Chartsutipol)
Chairman of the Corporate Governance
and Sustainable Development Committee



Inventory Shortfall Incident

Overview of the inventory management process

In view of the Company Business, the main products are Methyl Ester (ME) and Fatty Alcohol (FA), which are derived from the following raw materials: Refined Palm Oil (RPO) and Refined Bleached Deodorized Palm Kernel Oil (RBDPKO). The raw materials can be procured by 3 methods: 1) procures the refined oil, i.e. RPO and RBDPKO to feed in to the production process of the Company 2) procures Crude Oil, i.e. Crude Palm Oil (CPO) and Crude Palm Kernel Oil (CPKO) and delivers to the refineries that the Company engages in order to purify them prior to feed in to the production process of the Company and 3) procures Kernel Nuts (KN) and delivers to the Extractors/Refiners that the Company engages in order to undergo the extraction and refining processes before being transferred to the production process of the Company. The optimum raw material inventory level that ensures the business continuity is one of the key issues of the Company business. With the aforementioned procurement methods, the Company partly keeps certain raw materials store at the suppliers' facilities, in which the Company found the inventory shortfall. This is a consequence of the fact that the level of inventory in the procurement system is higher than the actual level of inventory in the storage facilities.

The Action of the Board of Directors on the issue

The findings of the significant inventory shortfall is a consequence of the Board of Directors' effort in expediting the management to give priority to manage the inventory efficiently. In addition, the Audit Committee had reported to the Board of Directors the red-flag findings from the audit report on the inventory issue. The Board of Directors, as well as the Sub-Committees, are fully aware of the issue and has given its priority in addressing the

issue on an urgent basis in a straightforward and transparent manner. They performed the duties under the principle of Fiduciary Duties with integrity and prudence and disclosed sufficient and precise information. The Board of Directors has appointed two independent ad hoc sub-committees, that are, the Fact-Finding Taskforce and the Disciplinary Investigation Panel, each comprising of members of the Board of Directors and managements, to conduct an in-depth investigation and put in place a guideline to deal with the issue on an urgent basis.

In this regard, the ad hoc sub-committees have performed their duties under the responsibilities as they have been delegated, as well as conducted the investigation, finding facts, collected evidence relevant to the raw material procurement process, raw material receiving and recording process, and the payment process, including engaging Legal Advisor to support their duties. The results of the investigation reveal that the issue was caused by an unlawful act of collusion among certain suppliers and some employees in the relevant function of the Company. In addition, there has been an overriding control by certain employees in executive positions in the relevant function causing the performance of works to not comply with the defined internal control of the Company. At the initial stage, the Company had estimated the damages to approximately THB 2,100 million.

Sufficiency of the Internal Control System of the Company

While the internal control system in the raw material procurement and the inventory management has been sufficiently and efficiently designed in accordance with the general standards of internal control system, the cause of the issue is a result of an act of certain employees who failed to comply with the operating procedure and acted beyond the scope of their delegated authority. Therefore, in order to ensure no reoccurrence of

similar issues in the future, the Company has engaged an independent external expert to review, assess, and provide opinions, the outcomes can be concluded that the Company has sufficiently put in place the internal control system for critical points of the raw material procurement and the inventory management. For example, the meetings of the Value Chain Management Committee (VCM) conducted to approve the quantity and purchased price of raw materials on a weekly basis, the purchase order procedure, the confirmation of raw materials with the extractors/refiners/storage tank service providers on a monthly basis and utilizing more modules in the standard and generally accepted computer program (SAP) for the raw material procurement process, all of which are incorporated in the operating manual of the Company. The expert has also given its recommendations to improve the efficiency of the internal control system by improving the organization structure of the units that relevant to the raw material management on the basis of the segregation of duties in order that unlawful acts of collusion do not recur, as well as applying the database from SAP system to completely control the operation of the raw material management, and lastly defining additional details in the work procedures for a more attentive operation. Accordingly, the Company has fully implemented the recommendations of the expert in 2018.

Update of the action against the persons involved

The Company has taken legal action against damages cause by suppliers and the persons who committed the offense in all cases without any exception according to the resolution of the Board of Directors. Currently, all the processes are under legal proceedings. Notwithstanding the foregoing, to solve the issue in an expedite manner, the Company has been in discussions with some suppliers who have admitted their wrongdoing in order to find a solution to compensate the Company. The results of discussion are satisfactory. In January 2019, the Company had concluded with some suppliers to pay for the damages with respect

to issue in raw materials management and entered into settlement agreements whereby the suppliers agree to deliver outstanding raw materials to the Company within the specified period. In addition, to establish confidence in the raw material delivery plans, the suppliers agree to provide securities as collateral against debt repayment and have arranged to have a person act as a guarantor.

As for the case of a claim of a third party that had received the right to receive the payment of raw materials from a supplier of the Company, the Company has refused to make any payment after reviewing relevant documents and finding that the claimed documents are not in the system of the Company, and there is no evidence of delivery of such raw materials. Later in August 2018, such third party filed a civil lawsuit to demand the supplier and the Company be jointly liable. This case is pending in the proceedings of the Court of First Instance, and the witness examination is scheduled to be conducted in July 2019.

With respect to the employees and executives who are involved in this issue, the Company has imposed disciplinary action on each individual based on the results of the investigations of the Disciplinary Investigation panel to each case.

During the period, in addition to the information disclosure of this issue to the shareholders and investors in a timely and straightforward manner, the Company has also undertaken other acts to support the preventive environment to ensure no reoccurrence of the same and other wrongdoing issues. For example, the Company has developed and improved the operating procedure that related to the suppliers to prevent the corruption by formulating guideline, and addressing the requirements related to the issues of ethics, Anti-Corruption practice, and Human Rights. In addition, the Company has put in place a supplier credit rating and improved its whistleblower procedure by adding internal and external whistleblowing channels in order to increase the efficiency of the system. The measures for protection of complainants and fair and transparent

treatment to the complainants are established, and the corporate culture is cultivated and promoted to the employees at every level. The Executives and the Board of Directors are aware of the importance of the lodging complaint procedure and the Business Code of Conduct by conducting the “Directors on Tour” and “MD Town Hall”. As for internal endeavors, the Company has implemented a “Conflict of Interest Declaration Form” where the Directors, Executives, and employees are required to fill out the form in order for them to be more aware and strictly comply. All of the activities are under the supervision of the Board of Directors and the relevant ad hoc committees via reporting and close monitoring.

While the issue does not have material impact on the financial position, current business operation, or business expansion plan in the future, the Company is abided by its intention and commitment to undertake any acts to address and solve the issue. The Company hopes that the determination and dedication of the Board of Directors, the Executives, and the employees in joining hands to solve the issue by adhering to the principles of transparency and fairness will serve as an appropriate approach and the best possible remedy to the damages. Furthermore, the Company will take this problem as a lesson learn for any business operations of the Company in the future.





Sustainable Development

4



Sustainable Development

Social Responsibility and Sustainable Development Policy

GGC has laid down policies on corporate social responsibility (CSR) and sustainable development that provide management guidelines for achieving stable and sustainable business growth in economic, social, and environmental aspects. A sustainable development philosophy has been adopted as a core business principle concretely dominating all stages of operations and all parts of the corporation. This is to ensure that GGC's position as a "Green Flagship" of the green chemical business under GC Group will be successfully sustained and will gain recognition from sustainable development entities at both national and international levels.

Social Responsibility and Sustainable Development Strategies

To grow a sustainable business, GGC is convinced that communities and society must grow in parallel. The business should win acceptance, trust, and confidence from communities and society. Engagement with all sectors must be promoted to sustainably raise the quality of life. GGC has specifically designed CSR strategies, dubbed as "3 Big Moves": recognition, growth, and trust. The strategies were drawn up in line with GGC's policies on sustainable development, covering economic, social, and environmental aspects. The strategies are:

Recognition : Increasing awareness of GGC's CSR endeavor among various groups of stakeholders.

Growth : Increasing CSR capability and tasks to address social problems and respond to social needs through business processes.

Trust : Winning stakeholders' satisfaction and trust in GGC's CSR activities.

GGC has established Social Responsibility and Sustainable Development Policy to be a guideline for the Board of Directors and its employees to conduct business as follows:

1. Integrating social responsibility into decision-making processes
2. Ethically conducting the business and Corporate Governance
3. Promoting and respecting a human rights, cultures, traditions, and values of employees stakeholders.
4. Committing to the implementation of safety, occupational health, and the environment

5. Advocating research or innovation for safe and efficient technologies that are beneficial to mankind and natural resources
6. Contributing to the advancement of the corporation and society where GGC operates
7. Engaging and communicating with stakeholders efficiently and transparently
8. Encouraging customers, business partners, and service users to embrace these guidelines.

In addition to the aforementioned policy, GGC has established a social responsibility framework for all activities related to stakeholders as follows;

1. Transparent and auditable business management with fair and equitable returns to the shareholders
2. Enhancement of the quality of life for both managements and employees. Cultivate the social responsibility awareness every level of employees so that they may actively participate and coordinate well in activities related to social responsibility
3. Value customers and business partners by emphasizing on building supply chains and a value chain together to develop business processes which are benign to employees, communities, society, and the environment
4. Continually support and value community activities, especially those in alignment with government policies regarding socio-economic development, education, and the environment, so that communities may sustain themselves
5. Promote learning, education development, and enhance employees' and general public awareness of the conservation of natural resources, the environment, and energy

6. Listen to the opinions and the needs of communities so that GGC's response and the development of corporate governance practices may be effective
7. Provide accurate information fostering understanding, as well as listening to challenges and potential impacts on each surrounding community. Any unscheduled incidents, such as emergency incidents, are managed in a timely manner to bolster trust and foundation of sustainable co-existence.

Social Responsibility Activities

Through determination and established strategies, GGC set up the Corporate Governance and Sustainable Development Committee and the Sustainable Development Driving team to take charge of sustainable development tasks. The Sustainable Development Driving team composes of the Managing Director and management members. The Corporate Governance and Sustainable Development Committee is responsible for overseeing policies, strategies, and work plans on sustainable business to ensure GGC Group's alignment with GC Group's directions and international standards on sustainability. The Sustainable Development Driving team, meanwhile, deals with strategies, scopes, and guidelines, and considers issues that benefit promotion of GGC's sustainable development to ensure alignment with its strategies and goal attainment.

In running CSR activities, GGC focuses on forging awareness and employee participation to create sustainable values for society, based on the concept "from within the organization to the outside society in a sustainable manner".

The following projects were key activities in 2018 that demonstrated GGC's attempt to translate this concept into practice, and implant social responsibility mindset to its employees

Inside Out Project

The project aimed to create a proper mindset among employees in showing their social

responsibility. The project is based on the 3Rs principle: Reduce—reducing consumption of single-use plastics, Reuse, and Recycle—reusing and recycling plastic products. One outcome was evident in less plastic waste, which reduced both social and environment impacts on society. In parallel, GGC's organizational culture on environmental conservation is promoted. The work plan included:

- Step 1 (Aware)

Forging awareness of undesirable impacts from the disposal of plastic waste, while giving updates on global trends for waste disposal.
- Step 2 (Recognize)

Posting photos of garbage and employees' behavior concerning waste disposal at offices and each plant as empirical evidence.
- Step 3 (Implement)

Initiating the "Single-use Plastic" project with a corporate objective to reduce plastic waste.
- Step 4 (Admire)

Initiating a reward system, while giving encouragement if waste reduction reaches the desired goal.
- Step 5 (Further)

Initiating further plans for plastic waste collected.

Creating with the Hearts and Moving Forward with GGC Project

For two consecutive years, GGC has carried out a "Creating with the Hearts and Moving Forward with GGC" project, which seeks employee engagement by encouraging them to apply their ability and knowledge to raise the quality of life and develop communities and society. Employees are allowed to express their ideas and run activities that can address community needs. In 2018, GGC employees'



accomplishments under this project included installation of spotlights for the small-fishing-boat group at Ban Nong Fab in Rayong, creating green areas and improving the garden landscape of the Map Ta Phut train station in Rayong, and beach cleaning in Map Ta Phut and Ban Chang in Rayong.

From the determination to run CSR projects that starts from “within the organization”, GGC in 2018 successfully expanded a number of projects to “the outside society” under a project called “Improving the Wellbeing of Community Enterprises in Rayong”. The project emphasizes on 1) developing individuals’ potential, 2) managing community’s surroundings, and 3) improving community’s wellbeing.



Improving the Wellbeing of Community Enterprises in Rayong Project

GGC has combined the concept of “from within the organization to the outside society” with community needs, using Koh Kok Community as a pilot project. This is a community under the responsibility of GGC that earlier started their community enterprise project but encountered a management problem due to lack of knowledge. GGC took part in solving the problem, leveraging employees’ knowledge in various areas. Such knowledge was passed on to community members to raise their capability and strengthen the community’s self-reliance. Even better, the knowledge they obtained was passed on further to neighboring communities. In 2018, GGC ran two such projects on Koh Kok: 1) a project to provide accounting knowledge to community enterprises in Rayong, and 2) a project to manage community organic waste.



Project to provide accounting knowledge to community enterprises in Rayong

The project seeks to raise community enterprise accounting efficiency, making the accounting system better structured and auditable. The knowledge provided can be further expanded for future development. The project outcome aligned with the key components on developing individuals’ potential and improving community wellbeing.

Project to manage community organic waste

GGC engaged “the organic waste management for Koh Kok community” project to provide knowledge on organic waste management, making the community a model learning center for efficient organic waste management. The process starts from separating community waste and making use of food waste, such as making Effective Microorganisms (EM) water from leftovers. Community waste was reduced, thus resulting in a better community environment and quality of life, in line with the key components on managing community surroundings and improving wellbeing. GGC will use this as a pilot project to pass on the knowledge to neighboring communities and the outside society. This project will also be a model for future development of organic waste management.

CSR projects during 2018 have earned a community satisfaction score of 87.91, exceeding last year’s score.

The detail of Sustainable Development appears in The Integrated Sustainability Report 2018.



Safety, Occupational Health, and Environmental Management

Quality, Security, Safety, Occupational Health, Environment, and Business Continuity Policy

GGC is committed to conducting its business to become a leader in the environmentally friendly chemical industry that is responsible for society and community (CSR). It pledges to continually improve the effectiveness of its quality, security, safety, occupational health, and environmental practices as follows:

1. Comply with laws, standards, regulations, and applicable requirements for quality, security, safety, health, the environment, and business continuity.
2. Manage quality throughout the corporation by deploying measures and tools to manage quality, knowledge, and productivity to meet customer satisfaction and develop eco-friendly innovations.
3. Manage risks to prevent harm, occupational illnesses, accidental injuries, and property damage. Cultivate and sustain a safety culture (B-CAREs) as well as process safety management (PSM).
4. Recognize security threats in order to protect lives, properties, information, and business continuity.
5. Value occupational health and a good work environment. Encourage the workforce to achieve their goals with good health and joy.
6. Protect the environment and prevent pollution. Maintain biodiversity by focusing on improving and protecting the habitat and efficient resource utilization. Foster an environmental culture by disseminating information and encouraging employees and stakeholders to be aware and actively contribute to GGC's environmental culture.

GGC is committed to becoming an accident-free organization (Zero Accident) under the concept of “Accident is preventable” by focusing on process safety and personal safety management.

Process Safety

GGC manages production process safety under the umbrella of the Operational Excellence Management System (OEMS) and the Center of Central Process Safety (CCPS), which is a standard system encompassing the design process, risk management, risk assessment, and emergency preparedness to ensure that employees operate safely at all times.

In 2018 GGC collaborated with DuPont, an international organization with a reputation in industrial safety, to implement the Incident Investigation System and the Field Risk Assessment to further develop safety standards for GGC and become more efficient by implementing safety management in processes through important projects as follows:

1. Incident Investigation System Project

GGC has applied Dupont's system called the “Why Tree Method” system as a standard tool to investigate any incident occurring in GGC, thus elevating the efficiency of safety to achieve zero accident goals (PSM Zero Accident) by training and disseminating knowledge about the Why Tree Method system, raising awareness of the importance of incident investigation, and becoming more efficient in incident management and reporting. Incident investigation identifies root causes of incidents on the failure of the system (System Failure) related to the PSM Elements such as Process Hazard Analysis, Operating Procedures, Management of Change, Contractor Safety Management, including formulating recommendations, sharing lessons learned, and effectively following up and closing those recommendations.

In addition, GGC has organized training courses for incident investigation for employees and contractors to understand and appreciate the importance of investigation, including incident corrective action reporting.

2. Field Risk Assessment (FRA) Project

GGC has established a process safety system to identify defects or deviations that may arise from errors made by employees and contractors (human errors), errors in processes (procedural errors), the locations of performance uncertainty (worksite conditions) and/or failure of technology (technology failure) and methods to implement effective solutions as well as ways to control problems appropriately.

In addition, GGC promotes the building of safety processes and hazard awareness among frontline workers through direct observation, discussions, and analyses of potential process safety hazards from the production processes.

During the implementation of the FRA program, employees and executives have jointly inspected workplaces to identify deviations from the designed standards or work procedures which arise from unsafe acts and unsafe process conditions and formulate corrective actions or control of potential deviations, resulting in no process-related accident in GGC facilities at all times.

Personal Safety

In addition to process safety, GGC is determined to strengthen the culture and behavior of safety among employees and regularly create personal safety awareness by emphasizing that employees and contractors are to work safely through two projects as follows:

1. “Safety Now” Project

In 2018, GGC changed the safety reporting system from the original “Safety Walk & Observation (SWO)” project to “Safety Now”. The objective remains the same: it allows employees to participate in reporting safety issues and voicing alerts through technology channels, thus reducing

the number of work-related accidents and injuries. The Safety Now system is user-friendly and similar to Facebook so that employees can share safety stories. The “Like” button allows other employees to interact and comment on each safety story. It also can display graphs, statistics, and SWO reports that are clear and easy to understand. Since the start of the project, the Safety Now system has been continuously used, meeting the goal of six safety cases/person/year.



2. Safety Stand Down Project: Commitment to Zero Accident

GGC has implemented the Safety Stand Down Day project for all executives, employees, and contractors to forge safety awareness and build team commitment to becoming a work-related accident-free and fatality-free organization (Safety Commitment: Zero Accident). In addition, GGC implemented other more focused projects to promote the commitment to being an accident-free organization, namely the Hand Injuries Awareness Program, focusing on reducing finger and hand injuries, and Life-Saving Rules program, defining safety rules.

With an effective safety management system and projects to create good safety awareness, employees' work-related injury rate in GGC has remained zero for five years and eight months running.

Environmental Management

GGC is committed to compliance with laws and regulations. It has established policies for all executives and employees to follow regarding security, safety, occupational health, the environment, business continuity, and energy conservation to ensure efficient operation and reduction of potential impacts on the environment.

GGC is certified against international standards, including ISO 14001 Environmental Management System, ISO 50001 Energy Management System, and ISO 22000 Food Safety Management System. The certification steps allow assessment on resource management in production processes in all operating areas of GGC. In 2018, GGC implemented many environmental projects, covering energy efficiency management, reduction of greenhouse gas emissions, water management, and waste management to increase operating efficiency to achieve established goals and reduce environmental impacts for long-term sustainable business. In 2018, GGC implemented the following energy conservation projects:

1. Installation of Heat Recovery System

GGC installed a heat recovery system in the fatty alcohols process to reduce the use of steam in heat exchangers of the methanol distillation unit. This project reduces process steam consumption by 96 tons per day, reduces greenhouse gas emissions by 4,292 tons of carbon dioxide equivalent.

2. Producing Steam from the Surplus Process Heat in the Production Process (Steam Generator)

GGC continued implementing a project to increase energy efficiency in the fatty alcohols process of 2017 by leveraging the surplus process heat to produce Low Low-Pressure Steam (LLPS) for use

in the fatty alcohols distillation process. GGC reduced steam consumption by 13,600 tons per year in the process, reduced greenhouse gases by 1,890 tons of carbon dioxide equivalent.

3. Absorption Chiller Installation Project

GGC replaced its chillers (compressor chillers) with absorption chillers, which were powered by waste heat generated steam condensate from the methyl ester and fatty alcohols facilities, as an energy source for absorption chillers, resulting in 1,648 MW of electricity saving per year.

Waste Management

GGC has established an industrial waste management policy under the 3Rs principle, namely Reduce, Reuse, and Recycle, together with green purchasing, which covers separation, storage, transport, and disposal as well as wastemanagement in compliance with the laws. In addition, GGC has established an Industrial Waste Management Committee to develop effective plans and initiate projects with goals to increase potential re-utilization of major waste in 2018 as follows:

1. Zero Waste to Landfill

GGC has implemented a project based on the 3Rs principle to maximize the re-utilization of waste to minimize impacts on the environment. This project has been successfully implemented, resulting in no waste disposal to landfill since 2014. As a result, GGC won a 3Rs Award and Zero Waste to Landfill Achievement Awards.

2. Feasibility Study to Improve Glycerine Process

GGC conducted a feasibility study to identify methods to increase the efficiency of the glycerine process while reducing waste generated from the process by replacing sodium hydroxide (NaOH) with potassium hydroxide (KOH), resulting in higher quantities of refined glycerine production. In addition, the waste generated from the new process can be converted to potassium salts, which are further processed into fertilizers or soil improvement material. Apart from the higher

glycerine processing efficiency, this effort can reduce 40 tons of waste per year, thus lowering waste disposal costs. As a result, GGC won the 3Rs+ Award the silver level from the Department of Industrial Works in 2018.

Water Resource Management

GGC is committed to effective, sustainable water resource management by focusing on reducing water consumption while reusing water so that GGC may reduce overall water consumption in the corporation, prevent risks in future operations, and prevent impacts on the environment and communities from the project. GGC has launched the project as follows:

Installation of Reverse Osmosis System (RO Units) in Cooling Water System

GGC has studied to install the Reverse Osmosis System (RO Units) to improve the water quality from the outflow of the cooling water system. The improved water can be further used as a supplementary volume for the next cycle. The project currently is under feasibility study and equipment design. It is expected, based on design, that GGC could reduce the amount of water discharged by 16,800 cubic meters per year (equivalent to 27% of the total discharge) and reduce the volume of new water introduced into the system by 16,800 cubic meters per year (35% of the total volume of water used in the water cooling system).





Financial Statements

5

Report of the Audit Committee

Dear Shareholders of Global Green Chemical Public Company Limited

The Audit Committee of Global Green Chemical Public Company Limited (GGC) is comprised of three independent Directors with experiences in the field of law, accounting and financial management, economics and agricultural industry. The Directors' expertise has been driven our committee with sufficient knowledge and effectiveness. The current Audit Committee consists of the following three members:

- | | | |
|----------------------|------------|---------------------------------|
| 1. Prof. Dr. Kumchai | Jongakapan | Chairman of the Audit Committee |
| 2. Ms. Kannika | Ngamsopee | Director to the Audit Committee |
| 3. Mr. Apichart | Jongsul | Director to the Audit Committee |

Our Three Directors fulfill the composition and qualifications are applicable with the announcements of the Stock Exchange of Thailand (SET). During the year, the committee underwent personal change after the Board of Director No 10/2017 of December 20, 2017 to approve the appointment of Prof. Dr. Kumchai Jongakapan as Chairman of Audit Committee to replace Mr. Permsak Shewawattnanon, who resigned from Independent Director. The new appointment for Prof. Dr. Kumchai Jongakapan shall be effective on January 1st 2018.

Due to the Audit Committee Meeting No. 8/2017 on December 21, 2017, the committee appointed Ms. Kunakorn Witthayapaisarn as Vice President, Internal Audit, served as committee secretary and this appointment shall be effective on January 1st, 2018.

The Committee has performed its duties as assigned by the Board of Director's and the duties of committee has been complied with Audit Committee Charter which aligned with the announcement of the Stock Exchange of Thailand and the Securities and Exchange Commission's Audit Handbook. Our Audit Committee Charter Policy keep in good faith on corporate governance code of conducts, business ethic besides corporate compliance with laws and regulations both domestic and internal operation. We have also underlined the adequacy and effectiveness of GGC 's Internal Control and Internal Audit System, as well as the performance of all business units and major investment.

In 2018, the Audit Committee held a total of 11 meetings. All of our directors were present at all of these meetings. We performed our duties with independence. The following is a summary of opinions and key activities that we undertook :

Review of Financial Report

The Audit Committee reviewed GGC's annual financial report for 2017 and 2018 quarterly financial statement. The committee considered from company's performance report, analytical report on consolidated Financial Statement, and any significant adjusted entries that affected the financial statement especially The Inventory Issue which directly impact to sensibility of the notes to the Financial Statement. The relevant members of management and the auditors attended these review session to provide explanations and respond to questions pertinent to the statements' accuracy and completeness, any significant adjusted entries that affected the financial statement, the sufficiency of information disclosure and the auditor's notes or key audit matter.

It is our opinion that GGC's financial reporting are correctly and credibly and sufficiently illustrate the financial status of the company which complied with Financial Accounting Standard. In additional, a meeting between the Audit Committee and the auditors without the presence of management was arranged to allow for an independent discussion on the financial statement preparation process and reporting namely

the auditors' annual audit plan and framework, risks, internal control, internal audit, allegations, fraud and other related issues that the auditors had not raised elsewhere. It is our opinion that the auditors received a good cooperation and well-supported from management, as well as independently performed their duties with sufficient knowledge, well-experienced and handle with appropriate audit method.

Review of Risk Management

The Board of Directors, the Risk Management Committee and the management have given priority to Risk Management by assessing Internal and External Risk Factors for their impact and likelihood, as well as developing risk mitigation measurement to prevent or to maintain those risks within the boundaries of the company's tolerance levels

In 2018, the Audit Committee has monitored and acknowledged GGC's risk management performance from Strategy, Corporate Risk, Internal Control and Portfolio Management. Moreover, the committee has reviewed the effectiveness of risk management based on individual business unit's risk profile and mitigation plan report which the management is keeping risk under control.

Review of Internal Control Systems' Effectiveness

The management has given priority to the development and improvement of internal control. Regarding to internal audit recommendation, the management agreed to support Internal Control System and raising the level of control process to their risk activities. With the incident on The Inventory Issue, the committee noted that it caused by an override control system from some of company staffs who conspired with several suppliers. The committee has given precedence to review and give highly suggestion to make an adjustment on company's internal control system especially Feedstock Sourcing and Inventory Management Process. Moreover, the committee also recommended management to prepare a long term preventive plan for improving Internal Control System aligned with company new organization structure for an effectiveness of control system.

The Audit Committee reviewed GGC's Internal Control System from the result of SEC Internal Control Assessment assessed by management as well as the internal audit reports and the auditors report. The committee discovered no irregularities that could significantly impact to GGC control system. Furthermore, the management has continuously improved GGC's Internal Control System based on Internal Audit's recommendation and the Audit Committee's suggestion. Those actions were sensibly ensured that GGC managed an adequate and effective internal control system, together with an adjustment of Feedstock Sourcing and Marketing and Sales Control Process for a higher effectiveness preventive system.

Oversight of Internal Auditing

- The committee approved an amendment of Audit Committee Charter, which we ensure that the charter would complied with Corporate Governance, Company's Code of Conducts, SEC Audit Committee Handbook, the announcement of Audit Committee Duties from SET and other Laws and Regulation based on Audit Committee roles and responsibility. Moreover, the charter also fulfilled with The International Professional Practices Framework (IPPF). Our Audit Committee Charter comprised with objective, scope of duties, responsibility, meeting and reporting which those activities would supported the audit committee to work with Internal Audit Department by effectiveness and followed with International Standards for the Professional Practice of Internal Auditing.
- The Audit Committee also approved the Risk Based Annual Audit Plan for significant control activities of GGC and its subsidiaries; its strategic plan focusing on the development of internal audit capabilities, alignment with company strategies and good relations with stakeholders; and the key performance

indicators (KPIs) for internal Audit major tasks. Moreover, the Committee shall discuss with management and Chief of Audit Executive (CAE) to hire the adequacy of staffing with variety of qualifications for supporting internal Audit activities to fulfill our audit achievement

- The Audit Committee has been monitoring and assessing the execution of established plan, we found that Internal Audit Department has succeeded in carrying out its tasks as described in the aforementioned plans and KPIs. The International Standards for the Professional Practice of Internal Auditing has been adapted along with other best practice. Internal Audit has emphasized its adherence to the code of conduct for internal audit and remained independent according to its organization. Moreover, the collaboration between the management and auditor would have given a well-supportive for the Audit Committee. That would show the company would have a dependent on Internal Audit Activity which complied with The International Standards for the Professional Practice of Internal Auditing.

Review of Good Corporate Governance

The Corporate Governance and Sustainable Development Committee (CG Committee) has supervised company compliance following with the Good Corporate Governance Principles including transparency, and fairness to GGC's stakeholders. The GC committee regularly reported company activities and performance to the Board of Directors. In 2018, GGC has granted a Certifications from Thailand's Private Sectors Collective Action Coalition Against Corruption (CAC). The Audit Committee reviewed and verified the accuracy and adequacy of CAC Self Assessment Form which it shows that GGC become a seriously organization to value corporate compliance with Good Corporate Governance and Anti-Corruption Measures.

Regarding to The Inventory Issue, The Corporate Governance and Sustainable Development Committee (CG Committee) revised the Whistleblower process to become more effectiveness by an expansion more channels on Whistleblower System which it given stakeholders to be trusted and more confident on Company's Whistleblower. Moreover, the collaboration between GC Committee, Audit Committee and the management created The Directors' Meet & Greet Staff Activity. The objective of this activity to narrow the gap between The Directors, Senior Executive Management and the management to have a chance to discuss together. It would help company staff level to trust on Whistleblower System.

Compliance with Securities and Stock Market Laws, Regulations of the Stock Exchange of Thailand and/or Other Applicable Laws

- The Audit Committee assigned Internal Audit to randomly reviewed Feedstock Purchased / Sales and Service Transaction with related parties. Internal Audit concluded that no connected transactions showed any signs of irregularities from the approved contracts that were processes in accordance with the announcements of Securities and Exchange Commission (SEC).

Moreover, the Audit committee reviewed the auditors' report on related parties transaction or conflicting interests transaction disclosure. The auditors reported that GGC complied with Securities and Exchange Commission (SEC)'s laws and regulations and there is NO irregularities were found.

The Appointment of External Auditors

The Audit Committee expressed their opinion on the nomination of an external auditors including Audit Fee for GGC and its Subsidiaries on 2018 consolidated financial statement. The committee considered with independent opinion on the qualification and experience of the Auditors as well as suitable fee according to their scope of work and proposed to the Board of Directors for the shareholders meeting approval.

Review of The Audit Committee Charter

The Audit Committee reviewed its charter to assure that the charter aligned with aligned with the announcement of the Stock Exchange of Thailand 2015 and the Securities and Exchange Commission's Audit Handbook. Moreover, the charter also compared with other organization including Government Agency, Banking Industry, Top Leading Listed Company and finally PTT Group which its fulfilled with The International Professional Practices Framework (IPPF). The Board of Directors approved a revised version of latest Audit Committee Charter which shall be effective on March 14th, 2018.

Audit Committee's Performance Appraisal

The Audit Committee evaluated their 2018 performance by a group and individual appraisal this year and they also reported its results to the Board of Directors, as shown in the annual report.

Based on the aforementioned activities throughout 2018, we believe that GGC posses good corporate governance, adequate internal control that suitable for business, effectiveness on risk management, accurate and accountable on financial and accounting system with Thai Financial Reporting Standard. Moreover, the company activities also complied with laws and regulation related their business activities.

The Audit Committee has been working carefully with independent opinion. The committee have received a cooperative from The Board of Directors, the management, the auditors and finally Internal Audit Department which its would help the committee supported GGC and The Board of Director's assignment especially The Inventory Issue which the Audit Committee would handle with care and also keep benefits and interests for GGC and its stakeholders

On behalf of the Audit Committee

(Signed) Kumchai Jongjakapan
(Prof. Dr. Kumchai Jongjakapan)
Chairman



Report of the Board's of Directors' Responsibility for Financial Reports

The consolidated financial statements of Global Green Chemicals Public Company Limited (“GGC”) and its subsidiaries was prepared in accordance with the Securities Exchange Commission under the Securities and Exchange Act B.E. 2535 and Department of Business Development, issued under the Accounting Act B.E. 2543 Section 11 Paragraph 3 in accordance with the Federation of Accounting Professions’ Thai Financial Reporting standards.

The Board of Directors is responsible for the Financial report of GGC’s and its subsidiaries in providing responsible assurance that the financial report present fairly financial position, financial performance and cash flows. The accounting data is sufficiently and accurately recorded to preserve GGC’s asset and prevent fraud and irregularity. The financial report has been prepared accordingly to appropriate accounting policy and in accordance with consistency practices, and in accordance with Thai Financial Reporting standards. Significant information have been adequately disclosed in notes of financial statements, where the auditors expressed an opinion on the financial statement of GGC’s and its subsidiaries in the auditor’s report.

(Signed) Supattanapong Punmeechaow
(Mr. Supattanapong Punmeechaow)
Chairman

(Signed) Sekxon Arttamangkura
(Mr. Sekxon Arttamangkura)
Managing Director



Independent Auditor's Report

To the Shareholders of Global Green Chemicals Public Company Limited

Opinion

I have audited the consolidated and separate financial statements of Global Green Chemicals Public Company Limited and its subsidiaries (the “Group”) and of Global Green Chemicals Public Company Limited (the “Company”), respectively, which comprise the consolidated and separate statements of financial position as at 31 December 2018, the consolidated and separate statements of income and comprehensive income, changes in equity and cash flows for the year then ended, and notes, comprising a summary of significant accounting policies and other explanatory information.

In my opinion, the accompanying consolidated and separate financial statements present fairly, in all material respects, the financial position of the Group and the Company, respectively, as at 31 December 2018 and their financial performance and cash flows for the year then ended in accordance with Thai Financial Reporting Standards (TFRSs).

Basis for Opinion

I conducted my audit in accordance with Thai Standards on Auditing (TSAs). My responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated and Separate Financial Statements section of my report. I am independent of the Group and the Company in accordance with the Code of Ethics for Professional Accountants issued by the Federation of Accounting Professions that is relevant to my audit of the consolidated and separate financial statements, and I have fulfilled my other ethical responsibilities in accordance with these requirements. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Key Audit Matters

Key audit matters are those matters that, in my professional judgment, were of most significance in my audit of the consolidated and separate financial statements of the current period. These matters were addressed in the context of my audit of the consolidated and separate financial statements as a whole, and in forming my opinion thereon, and I do not provide a separate opinion on these matters.

Valuation and Existence of Inventories

Refer to Notes 3(f), 4 and 9 to the Financial Statements.

The key audit matter

Inventory is valued at the lower of its cost and net realisable value. As a result of fluctuation in crude palm oil and crude palm kernel oil price may cause the net realisable value to be lower than its cost. The measurement of inventories together with their net realisable values are based on assumptions about the production yield of each product.

In addition, during the second quarter of 2018, the Company has found that the quantity of raw materials in the system was higher than actual quantity at the storage facilities of the suppliers. In consequence, the Company has recognised expenses from raw materials derogation amounting to THB 2,004 million.

I considered this as a key audit matter.

How the matter was addressed in the audit

My audit procedures included the following:

- Enquiring with management on procurement, issue and storage of raw materials process and implementation of controls over the process as well as randomly test the operating effectiveness of controls;
- Read the factual investigation report regarding the procurement and distribution process of raw materials, the fraud investigation report, the internal control report on procurement of raw materials and the related minutes of meeting of the board of directors;
- Attend the physical inventory count, send the inventory confirmation letter for inventories at the storage facilities of the suppliers and reconciling confirmations with the accounting records;
- Assessed assumptions used in the key measurement of inventory by evaluating the production assumptions and comparing to the actual production in the past and randomly checked the selling price of each finished goods with reference to current market prices;
- Tested the calculation of net realisable value of inventories;
- Randomly examined the supporting documents;
- Evaluated the adequacy of the disclosures in accordance with the relevant Thai Financial Reporting Standards.

Emphasis of Matter

I draw attention to note 4 of the financial statements, the third party who received the transfer of claim from the supplier for the payment of raw materials filed a civil lawsuit against the supplier and the Company as joint defendants for violation of loan agreement and transfer of claim, with damage claimed including interest totaling THB 324.65 million. The lawsuit is under the process for consideration of the Court and there is an uncertainty related to the outcome of lawsuit. My opinion is not modified in respect of this matter.

Other Information

Management is responsible for the other information. The other information comprises the information included in the annual report, but does not include the consolidated and separate financial statements and my auditor's report thereon.

My opinion on the consolidated and separate financial statements does not cover the other information and I will not express any form of assurance conclusion thereon.

In connection with my audit of the consolidated and separate financial statements, my responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated and separate financial statements or my knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work I have performed, I conclude that there is a material misstatement of this other information, I am required to report that fact. I have nothing to report in this regard.

Responsibilities of Management and Those Charged with Governance for the Consolidated and Separate Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated and separate financial statements in accordance with TFRSs, and for such internal control as management determines is necessary to enable the preparation of consolidated and separate financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated and separate financial statements, management is responsible for assessing the Group's and the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group and the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's and the Company's financial reporting process.

Auditor's Responsibilities for the Audit of the Consolidated and Separate Financial Statements

My objectives are to obtain reasonable assurance about whether the consolidated and separate financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with TSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated and separate financial statements.

As part of an audit in accordance with TSAs, I exercise professional judgment and maintain professional skepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the consolidated and separate financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's and the Company's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's and the Company's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the consolidated and separate financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the Group and the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated and separate financial statements, including the disclosures, and whether the consolidated and separate financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. I am responsible for the direction, supervision and performance of the group audit. I remain solely responsible for my audit opinion.

I communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

I also provide those charged with governance with a statement that I have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on my independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, I determine those matters that were of most significance in the audit of the consolidated and separate financial statements of the current period and are therefore the key audit matters. I describe these matters in my auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, I determine that a matter should not be communicated in my report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

NJT.

(Natthaphong Tantichattanon)
 Certified Public Accountant
 Registration No. 8829
 KPMG Phoomchai Audit Ltd.
 Bangkok
 18 February 2019

Statement of Financial Position

Global Green Chemicals Public Company Limited and its Subsidiaries

Assets	Note	Consolidated financial statements		Separate financial statements	
		31 December		31 December	
		2018	2017	2018	2017
		(in Baht)			
Current assets					
Cash and cash equivalents	6	2,387,007,110	2,422,230,058	1,574,867,841	1,946,238,489
Short-term deposits at financial institutions		1,400,000,000	1,700,000,000	1,300,000,000	1,700,000,000
Trade accounts receivable	5, 7	1,246,883,664	1,841,624,983	1,361,552,763	1,983,484,613
Other receivables	5, 8	141,107,473	49,586,042	154,167,574	66,238,484
Value-added tax receivable		35,099,292	124,762,953	-	-
Inventories	9	1,489,975,317	2,778,111,575	1,182,794,932	2,376,407,216
Other current assets		14,211,290	46,249,982	12,965,428	43,415,692
Total current assets		6,714,284,146	8,962,565,593	5,586,348,538	8,115,784,494
Non-current assets					
Investments in subsidiaries	5, 10	-	-	1,686,000,000	1,685,000,000
Investments in associate	5, 11	48,078,949	45,445,435	66,600,000	46,693,290
Investments in joint venture	5, 11	736,783,442	708,815,228	690,500,000	690,500,000
Plant and equipment	12	5,103,138,115	4,704,516,045	4,743,395,585	4,305,666,629
Intangible assets	13	74,582,422	75,780,119	40,913,143	42,093,241
Deferred tax assets	14	376,826,320	21,901,173	265,840,470	21,901,173
Other non-current assets		30,765,396	15,796,159	30,765,396	15,796,159
Total non-current assets		6,370,174,644	5,572,254,159	7,524,014,594	6,807,650,492
Total assets		13,084,458,790	14,534,819,752	13,110,363,132	14,923,434,986

The accompanying notes are an integral part of these financial statements

Statement of Financial Position

Global Green Chemicals Public Company Limited and its Subsidiaries

		Consolidated financial statements		Separate financial statements	
		31 December		31 December	
Liabilities and equity	Note	2018	2017	2018	2017
		(in Baht)			
Current liabilities					
Trade accounts payable	5, 16	740,616,667	410,041,907	715,160,218	386,727,356
Other payables	5, 17	286,687,969	368,881,978	232,230,892	319,724,274
Payables to contractors		166,092,729	227,633,691	165,507,079	226,776,363
Current portion of long-term borrowings					
from financial institutions	15	337,500,000	280,125,000	337,500,000	280,125,000
Current portion of finance lease liabilities	15	4,213,663	3,600,903	4,213,663	3,600,903
Total current liabilities		1,535,111,028	1,290,283,479	1,454,611,852	1,216,953,896
Non-current liabilities					
Long-term borrowings from financial institutions	15	1,768,497,535	2,104,840,845	1,768,497,535	2,104,840,845
Finance lease liabilities	15	10,567,722	10,998,982	10,567,722	10,998,982
Deferred tax liabilities	14	-	1,527,781	-	-
Non-current provision for employee benefit	18	62,612,123	53,992,498	62,612,123	53,992,498
Total non-current liabilities		1,841,677,380	2,171,360,106	1,841,677,380	2,169,832,325
Total liabilities		3,376,788,408	3,461,643,585	3,296,289,232	3,386,786,221
Equity					
Share capital	19				
Authorised share capital		10,483,333,000	10,483,333,000	10,483,333,000	10,483,333,000
Issued and paid share capital		10,236,667,000	10,236,667,000	10,236,667,000	10,236,667,000
Share premium		219,066,911	219,066,911	219,066,911	219,066,911
Difference arising from bussiness combination					
under common control		(4,134,457)	(4,134,457)	-	-
Retained earnings (Deficit)					
Appropriated					
Legal reserve	20	245,621,000	245,621,000	245,621,000	245,621,000
Unappropriated (Deficit)		(989,550,072)	375,955,713	(887,281,011)	835,293,854
Total equity		9,707,670,382	11,073,176,167	9,814,073,900	11,536,648,765
Total liabilities and equity		13,084,458,790	14,534,819,752	13,110,363,132	14,923,434,986

The accompanying notes are an integral part of these financial statements

Statement of Income

Global Green Chemicals Public Company Limited and its Subsidiaries

	Note	Consolidated financial statements		Separate financial statements	
		For the year ended 31 December		For the year ended 31 December	
		2018	2017	2018	2017
		(in Baht)			
Revenue from sales	5	16,224,585,170	19,472,369,186	15,468,829,264	18,880,809,331
Cost of sales	5, 9	(15,138,590,286)	(18,218,843,921)	(14,826,796,872)	(18,054,264,345)
Gross profit		1,085,994,884	1,253,525,265	642,032,392	826,544,986
Interest income and dividend income	5	47,835,629	29,939,763	130,439,312	98,448,985
Other income	5	95,615,938	52,330,176	123,828,733	83,117,726
Selling and distribution expenses	5, 22	(398,685,393)	(385,973,015)	(226,975,255)	(213,754,833)
Administrative expenses	5, 23	(380,596,339)	(346,312,927)	(362,432,106)	(331,847,909)
Expenses from raw materials derogation	4	(2,003,572,582)	-	(2,003,572,582)	-
Net foreign exchange gain (loss)		9,514,208	(24,366,527)	8,267,531	2,593,395
Net derivatives loss		(3,700,667)	(55,914,375)	(1,692,778)	(60,854,895)
Finance costs	5, 26	(71,677,329)	(87,271,895)	(71,677,329)	(92,014,913)
Share of profit of investments in associate and joint venture	11	102,045,018	86,735,756	-	-
Profit (loss) before income tax expense		(1,517,226,633)	522,692,221	(1,761,782,082)	312,232,542
Tax (expense) income	27	356,452,928	(1,752,874)	243,939,297	(2,155,144)
Profit (loss) for the year		(1,160,773,705)	520,939,347	(1,517,842,785)	310,077,398
Profit (loss) attributable to:					
Owners of the parent		(1,160,773,705)	520,939,347	(1,517,842,785)	310,077,398
Profit (loss) for the year		(1,160,773,705)	520,939,347	(1,517,842,785)	310,077,398
Basic earnings (loss) per share	29	(1.13)	0.56	(1.48)	0.33

The accompanying notes are an integral part of these financial statements

Statement of Comprehensive Income

Global Green Chemicals Public Company Limited and its Subsidiaries

	<i>Note</i>	Consolidated financial statements		Separate financial statements	
		For the year ended 31 December		For the year ended 31 December	
		2018	2017	2018	2017
		<i>(in Baht)</i>			
Profit (loss) for the year		(1,160,773,705)	520,939,347	(1,517,842,785)	310,077,398
Other comprehensive income (loss)					
<i>Items that will not be reclassified to profit or loss</i>					
Losses on remeasurements of defined benefit plans	18	-	(10,848,206)	-	(10,848,206)
Share of other comprehensive (loss) of investment in joint venture	11	-	(3,060,341)	-	-
Total items that will not be reclassified to profit or loss		-	(13,908,547)	-	(10,848,206)
Other comprehensive income (loss) for the year, net of tax		-	(13,908,547)	-	(10,848,206)
Total comprehensive income (loss) for the year		(1,160,773,705)	507,030,800	(1,517,842,785)	299,229,192
Total comprehensive income (loss) attributable to:					
Owners of the parent		(1,160,773,705)	507,030,800	(1,517,842,785)	299,229,192
Total comprehensive income (loss) for the year		(1,160,773,705)	507,030,800	(1,517,842,785)	299,229,192

The accompanying notes are an integral part of these financial statements

Statement of Change in Equity

Global Green Chemicals Public Company Limited and its Subsidiaries

	Note	Consolidated financial statements					Total equity
		Issued and paid share capital	Share premium	Difference arising from bussiness combination under common control	Retained earnings		
					Legal reserve	Unappropriated	
				(in Baht)			
For year ended 31 December 2017							
Balance at 1 January 2017		7,400,000,000	-	(4,134,457)	230,117,100	296,978,818	7,922,961,461
Transaction with owners, recorded directly in equity							
<i>Contributions by and distributions to owners of the parent</i>							
Issue of ordinary shares	19	2,836,667,000	219,066,911	-	-	-	3,055,733,911
Dividends to owners of the Company	30	-	-	-	-	(412,550,005)	(412,550,005)
Total contributions by and distributions to owners of the parent		2,836,667,000	219,066,911	-	-	(412,550,005)	2,643,183,906
Comprehensive income for the year							
Profit		-	-	-	-	520,939,347	520,939,347
Other comprehensive income (loss)		-	-	-	-	(13,908,547)	(13,908,547)
Total comprehensive income for the year		-	-	-	-	507,030,800	507,030,800
Transfer to legal reserve	20	-	-	-	15,503,900	(15,503,900)	-
Balance at 31 December 2017		10,236,667,000	219,066,911	(4,134,457)	245,621,000	375,955,713	11,073,176,167

The accompanying notes are an integral part of these financial statements

Statement of Change in Equity

Global Green Chemicals Public Company Limited and its Subsidiaries

	Note	Consolidated financial statements					Total equity
		Issued and paid share capital	Share premium	Difference arising from business combination under common control	Retained earnings (Deficit)	Unappropriated (Deficit)	
				(in Baht)	Legal reserve		
For year ended 31 December 2018							
Balance at 1 January 2018		10,236,667,000	219,066,911	(4,134,457)	245,621,000	375,955,713	11,073,176,167
Transaction with owners, recorded directly in equity							
<i>Distributions to owners of the parent</i>							
Dividends to owners of the Company	30	-	-	-	-	(204,732,080)	(204,732,080)
<i>Total distributions to owners of the parent</i>		-	-	-	-	(204,732,080)	(204,732,080)
Comprehensive income (loss) for the year							
Loss		-	-	-	-	(1,160,773,705)	(1,160,773,705)
Other comprehensive income		-	-	-	-	-	-
Total comprehensive income (loss) for the year		-	-	-	-	(1,160,773,705)	(1,160,773,705)
Balance at 31 December 2018		10,236,667,000	219,066,911	(4,134,457)	245,621,000	(989,550,072)	9,707,670,382

The accompanying notes are an integral part of these financial statements

Statement of Change in Equity

Global Green Chemicals Public Company Limited and its Subsidiaries

		Separate financial statements				
		Retained earnings				
		Issued and paid share capital	Share premium	Legal reserve (in Baht)	Unappropriated	Total equity
For year ended 31 December 2017						
		7,400,000,000	-	230,117,100	964,118,567	8,594,235,667
Transaction with owners, recorded directly in equity						
Contributions by and distributions to owners of the Company						
	19	2,836,667,000	219,066,911	-	-	3,055,733,911
	30	-	-	-	(412,550,005)	(412,550,005)
		2,836,667,000	219,066,911	-	(412,550,005)	2,643,183,906
Comprehensive income for the year						
		-	-	-	310,077,398	310,077,398
		-	-	-	(10,848,206)	(10,848,206)
		-	-	-	299,229,192	299,229,192
Transfer to legal reserve						
	20	-	-	15,503,900	(15,503,900)	-
Balance at 31 December 2017						
		10,236,667,000	219,066,911	245,621,000	835,293,854	11,536,648,765

The accompanying notes are an integral part of these financial statements

Statement of Change in Equity

Global Green Chemicals Public Company Limited and its Subsidiaries

Separate financial statements						
	Note	Issued and paid share capital	Share premium	Retained earnings (Deficit)		Total equity
				Legal reserve (in Baht)	Unappropriated (Deficit)	
For year ended 31 December 2018						
Balance at 1 January 2018		10,236,667,000	219,066,911	245,621,000	835,293,854	11,536,648,765
Transaction with owners, recorded directly in equity						
Distributions to owners of the Company						
Dividends to owners of the Company	30	-	-	-	(204,732,080)	(204,732,080)
Total distributions to owners of the Company		-	-	-	(204,732,080)	(204,732,080)
Comprehensive income (loss) for the year						
Loss		-	-	-	(1,517,842,785)	(1,517,842,785)
Other comprehensive income		-	-	-	-	-
Total comprehensive income (loss) for the year		-	-	-	(1,517,842,785)	(1,517,842,785)
Balance at 31 December 2018		10,236,667,000	219,066,911	245,621,000	(887,281,011)	9,814,073,900

The accompanying notes are an integral part of these financial statements

Statement of Cash Flows

Global Green Chemicals Public Company Limited and its Subsidiaries

	Consolidated financial statements		Separate financial statements	
	For the year ended 31 December		For the year ended 31 December	
	2018	2017	2018	2017
	<i>(in Baht)</i>			
<i>Cash flows from operating activities</i>				
Profit (loss) for the year	(1,160,773,705)	520,939,347	(1,517,842,785)	310,077,398
<i>Adjustments for</i>				
Depreciation	446,430,881	499,224,710	401,029,286	450,229,712
Amortisation	74,678,101	65,691,337	74,660,501	65,674,798
Interest income and dividend income	(47,835,629)	(29,939,763)	(130,439,312)	(98,448,985)
Finance costs	71,677,330	87,271,895	71,677,329	92,014,913
Unrealised (gain) loss on derivative	(656,711)	20,621,937	22,646	14,739,438
Unrealised (gain) loss on exchange rate	10,202,211	(13,036,306)	2,730,791	(10,888,558)
Losses on inventories devaluation	1,548,608	2,357,787	1,548,608	2,357,787
Expenses from raw materials derogation	2,003,572,582	-	2,003,572,582	-
(Gain) loss on disposal of plant and equipment	(225,692)	206,373	(225,692)	206,373
Provision for employee benefit	8,696,777	7,264,009	8,696,777	7,264,009
Share of profit of investments in associate and joint venture	(102,045,018)	(86,735,756)	-	-
Tax expense (income)	(356,452,928)	1,752,874	(243,939,297)	2,155,144
	948,816,807	1,075,618,444	671,491,434	835,382,029
<i>Changes in operating assets and liabilities</i>				
Trade accounts receivable	592,566,906	(334,427,286)	621,908,232	(220,495,069)
Other receivables	(2,067,870,753)	(3,734,425)	(2,072,055,601)	(3,602,482)
Value-added tax receivable	89,663,661	3,833,737	-	60,405,484
Inventories	1,282,568,768	1,593,924,792	1,180,131,747	1,652,743,848
Other current assets	(36,511,749)	(44,531,035)	(38,105,155)	(43,897,977)
Other non-current assets	(3,843,587)	(9,000,801)	(3,843,587)	(9,000,801)
Trade accounts payable	326,502,483	(318,870,309)	328,644,381	(330,465,525)
Other payables	(86,870,009)	162,192,620	(85,097,290)	160,641,309
Non-current provision for employee benefit	(77,152)	(1,729,332)	(77,152)	(1,729,332)
Net cash generated from operating	1,044,945,375	2,123,276,405	602,997,009	2,099,981,484
Taxes paid	(5,526,402)	(27,465,058)	(5,443,357)	(27,411,154)
Net cash from operating activities	1,039,418,973	2,095,811,347	597,553,652	2,072,570,330

The accompanying notes are an integral part of these financial statements

Statement of Cash Flows

Global Green Chemicals Public Company Limited and its Subsidiaries

	Consolidated financial statements		Separate financial statements	
	For the year ended 31 December		For the year ended 31 December	
Note	2018	2017	2018	2017
	(in Baht)			
Cash flows from investing activities				
Interest received	47,045,944	28,355,591	38,407,771	25,540,173
Dividends received	91,350,000	71,400,000	91,350,000	71,400,000
(Increase) decrease in short-term deposits at financial institutions	300,000,000	(1,700,000,000)	400,000,000	(1,700,000,000)
Acquisition of plant and equipment	(911,966,572)	(833,721,463)	(902,524,724)	(813,761,940)
Acquisition of intangible assets	(4,050,149)	(317,400)	(4,050,150)	(141,400)
Acquisition of other non-current assets	(12,004,251)	-	(12,004,251)	-
Cash outflow for investments in subsidiary	-	-	(1,000,000)	-
Cash outflow for investments in associate	(19,906,710)	(30,043,215)	(19,906,710)	(30,043,215)
Net cash used in investing activities	(509,531,738)	(2,464,326,487)	(409,728,064)	(2,447,006,382)
Cash flows from financing activities				
Finance costs	(70,168,800)	(84,956,600)	(70,168,800)	(89,699,620)
Dividends paid to owners of the Company	(204,732,080)	(412,550,005)	(204,732,080)	(412,550,005)
Finance lease payments	(3,866,530)	(3,825,978)	(3,866,530)	(3,825,978)
Decrease in short-term borrowings from related party	-	-	-	(310,000,000)
Proceeds from short-term borrowings from financial institutions	-	425,000,000	-	425,000,000
Repayment of short-term borrowings from financial institutions	-	(485,000,000)	-	(485,000,000)
Repayment of long-term borrowings from financial institutions	(280,125,000)	(230,625,000)	(280,125,000)	(230,625,000)
Proceeds from issue of shares	-	3,177,067,040	-	3,177,067,040
Transaction costs from issue of shares	-	(121,333,129)	-	(121,333,129)
Net cash from (used in) financing activities	(558,892,410)	2,263,776,328	(558,892,410)	1,949,033,308
Net increase (decrease) in cash and cash equivalents,				
before effect of exchange rates	(29,005,175)	1,895,261,188	(371,066,822)	1,574,597,256
Effect of exchange rate changes on cash and cash equivalents	(6,217,773)	(753,921)	(303,826)	(84,442)
Net increase (decrease) in cash and cash equivalents	(35,222,948)	1,894,507,267	(371,370,648)	1,574,512,814
Cash and cash equivalents at 1 January	2,422,230,058	527,722,791	1,946,238,489	371,725,675
Cash and cash equivalents at 31 December	2,387,007,110	2,422,230,058	1,574,867,841	1,946,238,489

The accompanying notes are an integral part of these financial statements



Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Note	Contents
1	General information
2	Basis of preparation of the financial statements
3	Significant accounting policies
4	Expenses from raw materials derogation
5	Related parties
6	Cash and cash equivalents
7	Trade accounts receivable
8	Other receivables
9	Inventories
10	Investment in subsidiaries
11	Investments in associate and joint venture
12	Plant and equipment
13	Intangible assets
14	Deferred tax
15	Interest-bearing liabilities
16	Trade accounts payable
17	Other payables
18	Non-current provisions for employee benefits
19	Share capital
20	Additional paid-in capital and reserves
21	Segment information
22	Selling and distribution expenses
23	Administrative expenses
24	Employee benefit expenses
25	Expenses by nature
26	Finance costs
27	Income tax expense
28	Promotional privileges
29	Basic earnings (loss) per share
30	Dividends
31	Financial instruments
32	Commitments with non-related parties
33	Thai Financial Reporting Standards (TFRS) not yet adopted
34	Events after the reporting period

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

These notes form an integral part of the financial statements.

The financial statements issued for Thai statutory and regulatory reporting purposes are prepared in the Thai language. These English language financial statements have been prepared from the Thai language statutory financial statements and, were approved and authorised for issue by the Board of Directors on 18 February 2019.

1 General information

Global Green Chemicals Public Company Limited, the “Company”, is incorporated in Thailand and has its registered offices as follows:

Head Office	: 555/1, Energy Complex, Building A, 4 th Floor, Vibhavadi-rangsit Road, Chatuchak, Bangkok, Thailand
Branch 1	: 8, I-8 Road, Mab Ta Phut Industrial Estate, Tambon Map Ta Phut, Amphur Mueang Rayong, Rayong, Thailand
Branch 2	: 8, Soi G12, Pakorn Songkhrao-Rat Road, Tambon Map Ta Phut, Amphur Mueang Rayong, Rayong, Thailand
Branch 3	: 199/1 Moo 2, Tambon Khao Sok, Amphur Nong Yai, Chonburi, Thailand

The Company was listed on the Stock Exchange of Thailand (“SET”) on 2 May 2017.

The immediate and ultimate parent companies during the financial year were PTT Global Chemical Public Company Limited and PTT Public Company Limited, respectively. Both are incorporated in Thailand.

The principal activities of the Company are production and distribution of Oleochemicals products. The Company’s major products are Methyl ester, Fatty alcohol, Fatty acid, Fatty Amine, other Alcohol’s ester, and other by products. Details of the Company’s subsidiaries, associate and joint venture as at 31 December were as follows:

Name of the entity	Type of business	Country of incorporation	Ownership interest (%)	
			2018	2017
<i>Subsidiaries</i>				
Thai Fatty Alcohols Co., Ltd.	Manufacturing and distributing biochemical products	Thailand	100	100
GGC Biochemical Co., Ltd.	Holding and operating local business	Thailand	100	-
<i>Associate</i>				
Thai Eastern Top Seeds Oil Co., Ltd.	Manufacturing and distributing crude palm kernel oil	Thailand	30	30
<i>Joint venture</i>				
Thai Ethoxylate Co., Ltd.	Manufacturing and distributing chemical and ethoxylate product	Thailand	50	50

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

2 Basis of preparation of the financial statements

(a) Statement of compliance

The financial statements are prepared in accordance with Thai Financial Reporting Standards (TFRS); guidelines promulgated by the Federation of Accounting Professions (“FAP”); and applicable rules and regulations of the Thai Securities and Exchange Commission.

The FAP has issued new and revised TFRS effective for annual accounting periods beginning on or after 1 January 2018. The initial application of these new and revised TFRS has resulted in changes in certain of the Group’s accounting policies. These changes have no material effect on the financial statements.

In addition to the above new and revised TFRS, the FAP has issued a number of new and revised TFRS which are not yet effective for current periods. The Group has not early adopted these standards in preparing these financial statements. Those new and revised TFRS that are relevant to the Group’s operations are disclosed in note 33.

(b) Basis of measurement

The financial statements have been prepared on the historical cost basis except for the following items.

<i>Items</i>	<i>Measurement bases</i>
Derivatives	Fair value
Defined benefit liability	Present value of the defined benefit obligation, as explained in Note 3(m)

(c) Functional and presentation currency

The financial statements are prepared and presented in Thai Baht, which is the Company’s functional currency.

(d) Use of judgements and estimates

The preparation of financial statements in conformity with TFRS requires management to make judgements, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised prospectively.

Information about assumption and significant areas of estimation uncertainties that have a significant risk of resulting in a material adjustments to the carrying amounts of assets and liabilities within the year ending 31 December 2019 is included in the following notes:

Note 18	Measurement of defined benefit obligations : key actuarial assumptions
---------	---

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Measurement of fair values

A number of the Group's accounting policies and disclosures require the measurement of fair values, for financial assets and liabilities.

When measuring the fair value of an asset or a liability, the Group uses observable market data as far as possible. Fair values are categorised into different levels in a fair value hierarchy based on the inputs used in the valuation techniques as follows:

- Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2: inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices).
- Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs).

If the inputs used to measure the fair value of an asset or liability might be categorised in different levels of the fair value hierarchy, then the fair value measurement is categorised in its entirety in the same level of the fair value hierarchy as the lowest level input that is significant to the entire measurement.

3 Significant accounting policies

The accounting policies set out below have been applied consistently to all periods presented in these financial statements.

(a) Basis of consolidation

The consolidated financial statements relate to the Company and its subsidiaries (together referred to as the "Group") and the Group's interests in associate and joint venture.

Acquisitions from entities under common control

Business combination under common control are accounted for using a method similar to the pooling of interest method. Under that method the acquirer recognises assets and liabilities of the acquired businesses at their carrying amounts in the consolidated financial statements of the ultimate parent company at the moment of the transaction. The difference between the carrying amount of the acquired net assets and the consideration transferred is recognised as surplus or discount from business combinations under common control in shareholder's equity. The surplus or discount will be transferred to retained earnings upon divestment of the businesses acquired.

The results from operations of the acquired businesses will be included in the consolidated financial statements of the acquirer from the beginning of the comparative period or the moment the businesses came under common control, whichever date is later, until control ceases.

Subsidiaries

Subsidiaries are entities controlled by the Group. The Group controls an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The financial statements of subsidiaries are included in the consolidated financial statements from the date on which control commences until the date on which control ceases.

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Non-controlling interests

At the acquisition date, the Group measures any non-controlling interest at its proportionate interest in the identifiable net assets of the acquiree.

Changes in the Group's interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions.

Loss of control

When the Group loses control over a subsidiary, it derecognises the assets and liabilities of the subsidiary, and any related non-controlling interests and other components of equity. Any resulting gain or loss is recognised in profit or loss. Any interest retained in the former subsidiary is measured at fair value when control is lost.

Interests in equity - accounted investees

The Group's interests in equity-accounted investees comprise interests in associate and a joint venture.

Associate are those entities in which the Group has significant influence, but not control or joint control, over the financial and operating policies. A joint venture is an arrangement in which the Group has joint control, whereby the Group has rights to the net assets of the arrangement, rather than rights to its assets and obligations for its liabilities.

Interests in associate and a joint venture are accounted for using the equity method. They are initially recognised at cost, which includes transaction costs. Subsequent to initial recognition, the consolidated financial statements include the Group's share of the profit or loss and other comprehensive income of equity - accounted investees, until the date on which significant influence or joint control ceases.

Transactions eliminated on consolidation

Intra-group balances and transactions, and any unrealised income or expenses arising from intra-group transactions, are eliminated. Unrealised gains arising from transactions with equity-accounted investees are eliminated against the investment to the extent of the Group's interest in the investee.

(b) Foreign currencies

Foreign currency transactions

Transactions in foreign currencies are translated to the respective functional currencies of Group entities at exchange rates at the dates of the transactions.

Monetary assets and liabilities denominated in foreign currencies are translated to the functional currency at the exchange rate at the reporting date.

Non-monetary assets and liabilities measured at cost in foreign currencies are translated to the functional currency at the exchange rates at the dates of the transactions.

Foreign currency differences are generally recognised in profit or loss.

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

(c) Derivative

Derivative are used to manage exposure to foreign exchange, interest rate arising from operating, financing and investment activities. Derivatives are not used for trading purposes. However, derivatives that do not qualify for hedge accounting are accounted for as trading instruments.

Derivatives are recognised initially at fair value; attributable transaction costs are recognised in profit or loss when incurred. Subsequent to initial recognition, they are remeasured at fair value. The gain or loss on remeasurement to fair value is recognised immediately in profit or loss.

The fair value of forward exchange contracts is based on their listed market price as the reporting date, if available. If a listed market price is not available, then fair value is estimated by the forward contract price with the same nature and maturity date at the reporting date.

(d) Cash and cash equivalents

Cash and cash equivalents comprise cash balances, call deposits and highly liquid short-term investments.

(e) Trade and other accounts receivable

Trade and other accounts receivable are stated at their invoice value less allowance for doubtful accounts.

The allowance for doubtful accounts is assessed primarily on analysis of overdue aging and future expectations of customer payments. Bad debts are written off when incurred.

(f) Inventories

Inventories are measured at the lower of cost and net realisable value.

Cost is calculated using the weighted average cost principle, and comprises all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition. In the case of manufactured inventories and work-in-progress, cost includes an appropriate share of production overheads based on normal operating capacity.

Net realisable value is the estimated selling price in the ordinary course of business less the estimated costs to complete and to make the sale.

(g) Investments

Investments in subsidiaries, associate and joint venture

Investments in subsidiaries, associate and joint venture in the separate financial statements of the Company are accounted for using the cost method less accumulated impairment losses. Investments in associate and joint venture in the consolidated financial statements are accounted for using the equity method.

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Disposal of investments

On disposal of an investment, the difference between net disposal proceeds and the carrying amount is recognised in profit or loss.

If the Group disposes of part of its holding of a particular investment, the deemed cost of the part sold is determined using the weighted average method applied to the carrying value of the total holding of the investment.

(h) Plant and equipment

Recognition and measurement

Owned assets

Plant and equipment are measured at cost less accumulated depreciation and impairment losses.

Cost includes expenditure that is directly attributable to the acquisition of the asset. The cost of self-constructed assets includes the cost of materials and direct labour, any other costs directly attributable to bringing the assets to a working condition for their intended use, the costs of dismantling and removing the items and restoring the site on which they are located, and capitalised borrowing costs. Purchased software that is integral to the functionality of the related equipment is capitalised as part of that equipment.

When parts of an item of plant and equipment have different useful lives, they are accounted for as separate items (major components) of plant and equipment.

Any gains and losses on disposal of an item of plant and equipment are determined by comparing the proceeds from disposal with the carrying amount of plant and equipment, and are recognised in profit or loss.

Leased assets

Leases in terms of which the Group substantially assumes all the risk and rewards of ownership are classified as finance leases. Plant and equipment acquired by way of finance lease are capitalised at the lower of their fair value and the present value of the minimum lease payments at the inception of the lease, less accumulated depreciation and impairment losses. Lease payments are apportioned between the finance charges and reduction of the lease liability so as to achieve a constant rate of interest on the remaining balance of the liability. Finance charges are charged directly to the profit or loss.

Subsequent costs

The cost of replacing a part of an item of plant and equipment is recognised in the carrying amount of the item if it is probable that the future economic benefits embodied within the part will flow to the Group, and its cost can be measured reliably. The carrying amount of the replaced part is derecognised. The costs of the day-to-day servicing of plant and equipment are recognised in profit or loss as incurred.

Depreciation

Depreciation is calculated based on the depreciable amount, which is the cost of an asset, or other amount substituted for cost, less its residual value.

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Depreciation is charged to profit or loss on a straight-line basis over the estimated useful lives of each component of an item of plant and equipment. The estimated useful lives are as follows:

Plant, machinery, factory tools and equipment	5-25 years
Buildings and buildings improvement	5-20 years
Land improvement	5-20 years
Furniture, fixtures and office equipment	3-10 years
Vehicles	5 years

No depreciation is provided on assets under construction.

Depreciation methods, useful lives and residual values are reviewed at each financial year-end and adjusted if appropriate.

(i) *Intangible assets*

Goodwill

Goodwill that arises upon the acquisition of businesses is included in intangible assets. Subsequent to initial recognition, goodwill is measured at cost less accumulated impairment losses.

Production licence fees and other intangible assets

Production licence fees and other intangible assets that are acquired by the Group and have finite useful lives are measured at cost less accumulated amortisation and accumulated impairment losses.

Subsequent expenditure

Subsequent expenditure is capitalised only when it increases the future economic benefits embodied in the specific asset to which it relates. All other expenditure, including expenditure on internally generated goodwill and brands, are recognised in profit or loss as incurred.

Amortisation

Amortisation is based on the cost of the asset, or other amount substituted for cost, less its residual value.

Amortisation is recognised in profit or loss on a straight-line basis over the estimated useful lives of intangible assets, other than goodwill, from the date that they are available for use, since this most closely reflects the expected pattern of consumption of the future economic benefits embodied in the asset. The estimated useful lives for the current and comparative periods are as follows:

Production licence fees	20 years
Other intangible assets	3-15 years

Amortisation methods, useful lives and residual values are reviewed at each financial year-end and adjusted if appropriate.

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

(j) Impairment

The carrying amounts of the Group's assets are reviewed at each reporting date to determine whether there is any indication of impairment. If any such indication exists, the assets' recoverable amounts are estimated. For goodwill and intangible assets that have indefinite useful lives or are not yet available for use, the recoverable amount is estimated each year at the same time.

An impairment loss is recognised if the carrying amount of an asset or its cash-generating unit exceeds its recoverable amount. The impairment loss is recognised in profit or loss.

Calculation of recoverable amount

The recoverable amount of a non-financial asset is the greater of the asset's value in use and fair value less costs to sell. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. For an asset that does not generate cash inflows largely independent of those from other assets, the recoverable amount is determined for the cash-generating unit to which the asset belongs.

Reversals of impairment

An impairment loss in respect of a financial asset is reversed if the subsequent increase in recoverable amount can be related objectively to an event occurring after the impairment loss was recognised in profit or loss.

An impairment loss in respect of goodwill is not reversed.

Impairment losses recognised in prior periods in respect of other non-financial assets are assessed at each reporting date for any indications that the loss has decreased or no longer exists. An impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

(k) Interest-bearing liabilities

Interest-bearing liabilities are recognised initially at fair value less attributable transaction charges. Subsequent to initial recognition, interest-bearing liabilities are stated at amortised cost with any difference between cost and redemption value being recognised in profit or loss over the period of the borrowings on an effective interest basis.

(l) Trade and other payables

Trade and other payables are stated at cost.

(m) Employee benefits

Defined contribution plans

Obligations for contributions to defined contribution plans are expensed as the related service is provided.

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Defined benefit plans

The Group's net obligation in respect of defined benefit plans is calculated separately for each plan by estimating the amount of future benefit that employees have earned in the current and prior periods, discounting that amount.

The calculation of defined benefit obligations is performed every 3 years by a qualified actuary using the projected unit credit method. When the calculation results in a potential asset for the Group, the recognised asset is limited to the present value of economic benefits available in the form of any future refunds from the plan or reductions in future contributions to the plan. To calculate the present value of economic benefits, consideration is given to any application minimum funding requirements.

Remeasurements of the net defined benefit liability, actuarial gain or loss are recognised immediately in OCI. The Group determines the interest expense on the net defined benefit liability for the period by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period, taking into account any changes in the net defined benefit liability during the period as a result of contributions and benefit payments. Net interest expense and other expenses related to defined benefit plans are recognised in profit or loss.

When the benefits of a plan are changed or when a plan is curtailed, the resulting change in benefit that relates to past service or the gain or loss on curtailment is recognised immediately in profit or loss. The Group recognises gains and losses on the settlement of a defined benefit plan when the settlement occurs.

Other long-term employee benefits

The Group's net obligation in respect of long-term employee benefits is the amount of future benefit that employees have earned in return for their service in the current and prior periods. That benefit is discounted to determine its present value. Remeasurements are recognised in profit or loss in the period in which they arise.

Termination benefits

Termination benefits are expensed at the earlier of when the Group can no longer withdraw the offer of those benefits and when the Group recognises costs for a restructuring. If benefits are not expected to be settled wholly within 12 months of the end of the reporting period, then they are discounted.

Short-term employee benefits

Short-term employee benefits are expensed as the related service is provided. A liability is recognised for the amount expected to be paid if the Group has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee and the obligation can be estimated reliably.

(n) Provisions

A provision is recognised if, as a result of a past event, the Group has a present legal or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation. Provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability. The unwinding of the discount on provisions is recognised as finance cost.

(o) Revenue

Revenue excludes value added taxes and is arrived at after deduction of trade discounts.

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Sale of goods

Revenue is recognised in profit or loss when the significant risks and rewards of ownership have been transferred to the buyer. No revenue is recognised if there is continuing management involvement with the goods or there are significant uncertainties regarding recovery of the consideration due, associated costs or the probable return of goods.

Dividend income

Dividend income is recognised in profit or loss on the date the Group's right to receive payments is established.

Interest and other income

Interest and other income is recognised in profit or loss as it accrues.

(p) Finance costs

Finance costs is recognised using the effective interest method and comprises interest expense on borrowings, unwinding of the discount on provisions and contingent consideration, fair value losses on financial assets at fair value through profit or loss, impairment losses recognised on financial assets (other than trade receivables), and losses on hedging instruments that are recognised in profit or loss.

Borrowing costs that are not directly attributable to the acquisition, construction or production of a qualifying asset are recognised in profit or loss using the effective interest method.

(q) Lease payments

Payments made under operating leases are recognised in profit or loss on a straight line basis over the term of the lease.

Contingent lease payments which the lease adjustment is confirmed, are accounted for by revising the minimum lease payments over the remaining term of the lease.

(r) Income tax

Income tax expense for the year comprises current and deferred tax. Current and deferred tax are recognised in profit or loss except to the extent that the items recognised directly in equity or in other comprehensive income.

Current tax is the expected tax payable on the taxable income for the year, using tax rates enacted at the end of the reporting period, and any adjustment to tax payable in respect of previous years.

Deferred tax is recognised in respect of temporary differences between the carrying amounts and taxable value of assets and liabilities, using tax rate enacted or substantively enacted to the temporary differences when they reverse.

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Deferred tax is not recognised for the following temporary differences:

- the initial recognition of goodwill;
- the initial recognition of assets or liabilities in a transaction that is not a business combination and that affects neither accounting nor taxable profit or loss;
- differences relating to investments in subsidiaries to the extent that it is probable that they will not reverse in the foreseeable future.

The measurement of deferred tax reflects the tax consequences that would follow the manner in which the Group expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities.

In determining the amount of current and deferred tax, the Group takes into account the impact of uncertain tax positions and whether additional taxes and interest may be due. The Group believes that its accruals for tax liabilities are adequate for all open tax years based on its assessment of many factors, including interpretations of tax law and prior experience. This assessment relies on estimates and assumptions and may involve a series of judgements about future events. New information may become available that causes the Group to change its judgement regarding the adequacy of existing tax liabilities; such changes to tax liabilities will impact tax expense in the period that such a determination is made.

Deferred tax assets and liabilities on different tax entities are offset if there is a legally enforceable right to offset current tax assets and liabilities, and they relate to income taxes levied by the same tax authority.

A deferred tax asset is recognised to the extent that it is probable that future taxable profits will be available against which the temporary differences can be utilised. Future taxable profits are determined based on the reversal of relevant taxable temporary differences. If the amount of taxable temporary differences is insufficient to recognise a deferred tax asset in full, then future taxable profits, adjusted for reversals of existing temporary differences, are considered, based on the business plans for individual subsidiaries in the Group. Deferred tax assets are reviewed at each reporting date and reduced to the extent that it is no longer probable that the related tax benefit will be realised.

(s) Earnings (loss) per share

The Group presents basic earnings (loss) per share (EPS) data for its ordinary shares. Basic EPS is calculated by dividing the profit or loss attributable to ordinary shareholders of the Group by the weighted average number of ordinary shares outstanding during the year.

(t) Segment reporting

Segment results that are reported to the Group's Management Committee (the chief operating decision maker) include items directly attributable to a segment as well as those that can be allocated on a reasonable basis.

4 Expenses from raw materials derogation

As raw material used in production process are volatile commodities, the Company has policy to manage inventory to be at an appropriate level in order to mitigate impact from the raw material price volatility. During second quarter of 2018, the Company has found that the quantity of raw materials in the system was higher than actual quantity at the storage facilities of the suppliers. In addition, this also includes the case that the Company delivered the raw materials to the supplier for refining, however, the supplier neither returned back the refining products according to the contract nor the raw materials to the Company. In October and December 2017, the Company performed raw material inventory physical checking and the result of inspection was in line with what was recorded in the system.

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

During June 2018, the Company conducted an in-depth investigation and found the misconduct among certain suppliers and some employees in the relevant functions of the Company, in which certain suppliers are related. The Company take legal action against the parties involved and conducted a disciplinary investigation against involved employees. On 17 July 2018, the Company had already taken legal actions against involved parties (external and internal). Also, the Company is in the process of conducting the disciplinary investigation against every involved employees

In consequence, the Company has recognised expenses from raw materials derogation in the consolidated and separate statements of income for the year ended 31 December 2018 amounting to Baht 2,004 million. However, the Company is legally entitled to claim from those involved.

In addition, the Company was informed from the third party who received the transfer of claim from the supplier for the payment of raw materials, which the supplier borrowed from the third party to purchase raw materials to sell to the Company and the Company had to pay for the raw materials to that third party under the transfer of right for the payment of raw materials. After reviewing the documents provided, the Company informed to third party that these documents are not in the system, nor there was no evidence regarding the delivery of raw materials as prescribed in the documents. Subsequently on 20 August 2018, that third party filed a civil lawsuit against the supplier and the Company as joint defendants for violation of loan agreement and transfer of claim, with damage claimed amounting to Baht 308.75 million with interest rate at 15% per annum amounting to Baht 15.90 million, totaling Baht 324.65 million. The legal advisor of the Company provided the opinion that if it can be proven that the delivery of the materials had not been made to the Company, the Company should not have any obligation to pay for such payments. The Court specified the day of determination of dispute issue and the legal process or plaintiff's witness hearing on 26 November 2018, which the parties announced to the court that they could not negotiate a settlement, therefore, the court determined the dispute issues and scheduled the trial hearing of the plaintiff and defendant's witnesses in July 2019.

On 31 January 2019, the Company has reached the agreements with some of the suppliers to compensate for the raw materials derogation issue by entering into settlement agreements which requires suppliers to deliver the pending quantity of raw material under the period specified in the agreements.

5 Related parties

A related party is as follows;

- An individual or an entity which has the ability, directly or indirectly, to control or joint control or exercise significant influence over the Group in making financial and operating decisions or;
- An individual or an entity which is subject to common control or common significant influence with the Group or;
- The Group has the ability, directly or indirectly, to control or joint control or exercise significant influence over an individual or an entity in making financial and operating decisions.

Relationships with related parties were as follows:

Name of entities	Country of incorporation/ nationality	Nature of relationships
PTT Plc.	Thailand	Ultimate parent company and the Company's directors as managements
PTT Global Chemical Plc.	Thailand	Parent and the Company's directors as managements

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Name of entities	Country of incorporation/ nationality	Nature of relationships
Thai Fatty Alcohols Co., Ltd.	Thailand	Subsidiary, 100% shareholding and the Company's management as a director
GGC Biochemical Co., Ltd.	Thailand	Subsidiary, 100% shareholding and the Company's management as a director
Thai Eastern Top Seeds Oil Co., Ltd.	Thailand	Associate, 30% shareholding and the Company's management as a director
Thai Ethoxylate Co., Ltd.	Thailand	Joint venture, 50% shareholding and the Company's management as a director
GC Glycol Co., Ltd. (Formerly TOC Glycol Co., Ltd.)	Thailand	Other related party, shareholding by parent company and some common directors
Solution Creation Co., Ltd.	Thailand	Other related party, shareholding by parent company and some common directors
PTT Phenol Co., Ltd.	Thailand	Other related party, shareholding by parent company and some common directors
Global Power Synergy Plc.	Thailand	Other related party, shareholding by parent company and some common directors
GC Maintenance and Engineering Co., Ltd. (Formerly PTT Maintenance and Engineering Co., Ltd.)	Thailand	Other related party, shareholding by parent company
GC Logistics Co., Ltd. (Formerly PTT Polymer Logistics Co., Ltd.)	Thailand	Other related party, shareholding by parent company
Thai Tank Terminal Limited	Thailand	Other related party, shareholding by parent company
PTT Digital Solutions Co., Ltd.	Thailand	Other related party, shareholding by parent company
Eastern Fluid Transport Co., Ltd.	Thailand	Other related party, shareholding by parent company
NPC Safety and Environmental Service Co., Ltd.	Thailand	Other related party, shareholding by parent company
Dhipaya Insurance Plc.	Thailand	Other related party, shareholding by the ultimate parent company
Thai Oil Plc.	Thailand	Other related party, shareholding by the ultimate parent company
PTT Oil and Retail Business Co., Ltd.	Thailand	Other related party, shareholding by the ultimate parent company
Energy Complex Co., Ltd.	Thailand	Other related party, shareholding by the ultimate parent company

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Name of entities	Country of incorporation/ nationality	Nature of relationships
IRPC Plc.	Thailand	Other related party, shareholding by the ultimate parent company
Business Services Alliance Co., Ltd	Thailand	Other related party, shareholding by the ultimate parent company and parent company
TOP Solvent Co., Ltd.	Thailand	Other related party, indirect shareholding by the ultimate parent company
IRPC Polyol Co., Ltd.	Thailand	Other related party, indirect shareholding by the ultimate parent company
TOP Solvent (Vietnam) LLC.	Vietnam	Other related party, indirect shareholding by the ultimate parent company
NPC S&E Security Guard Co., Ltd.	Thailand	Other related party, indirect shareholding by parent company
Advanced Biochemical (Thailand) Co., Ltd.	Thailand	Other related party, indirect shareholding by parent company
Emeryoleo Specialties (M) Sdn. Bhd.	Malaysia	Other related party, indirect shareholding by parent company

The pricing policies for particular types of transactions are explained further below:

Transactions	Pricing policies
Sale of goods	Contract price / Contract price determined based on reference market price
Rendering of services	Contract price
Purchase of goods / raw materials / services	Contract price / market price
Interest on loan	Average cost of fund / Contractually agreed rate

Significant transactions for the years ended 31 December with related parties were as follows:

<i>For the year ended 31 December</i>	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	<i>(in million Baht)</i>			
Ultimate parent				
Sales of goods or rendering of services	2,333	5,245	2,333	5,245
Purchases of goods or receiving of services	2,134	675	2,134	675
Other income	49	16	49	16
Other expense	4	5	4	5
Parent				
Sales of goods or rendering of services	947	1,230	947	1,230
Purchases of goods or receiving of services	220	188	207	178
Other income	8	13	8	13
Other expense	96	92	90	90

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

<i>For the year ended 31 December</i>	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	<i>(in million Baht)</i>			
Subsidiaries				
Sales of goods or rendering of services	-	-	4,977	6,253
Other income	-	-	29	31
Interest expense	-	-	-	6
Associate				
Purchases of goods or receiving of services	249	86	249	86
Joint venture				
Sales of goods or rendering of services	1,743	1,669	-	-
Dividend income	-	-	91	72
Other income	5	5	5	5
Other related parties				
Sales of goods or rendering of services	3,873	1,409	3,873	1,409
Purchases of goods or receiving of services	636	561	520	451
Other income	5	2	5	2
Other expense	56	38	41	25
Key management personnel				
Key management personnel compensation				
Short-term benefits	7	9	7	9

Balances as at 31 December with related parties were as follows:

<i>Trade accounts receivable - related parties</i>	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	<i>(in million Baht)</i>			
Ultimate parent	-	356	-	356
Parent	21	52	21	51
Subsidiaries	-	-	876	1,227
Joint venture	305	394	-	-
Other related parties	344	101	344	101
Total	670	903	1,241	1,735
Less allowance for doubtful accounts	-	-	-	-
Net	670	903	1,241	1,735
Bad and doubtful debts expenses for the year	-	-	-	-

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Other receivables - related parties

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	(in million Baht)			
Ultimate parent	4	3	4	3
Parent	23	11	23	11
Subsidiaries	-	-	18	20
Joint venture	2	2	2	2
Other related parties	77	12	75	10
Total	106	28	122	46
Less allowance for doubtful accounts	-	-	-	-
Net	106	28	122	46

Bad and doubtful debts expenses for the year	-	-	-	-
--	---	---	---	---

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	(in million Baht)			
Investments in subsidiaries (Note 10)	-	-	1,686	1,685
Investments in associate (Note 11)	48	45	67	47
Investments in joint venture (Note 11)	737	709	691	691

Trade accounts payable - related parties

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	(in million Baht)			
Ultimate parent	65	37	65	37
Parent	25	9	25	9
Associate	4	2	4	2
Other related parties	92	89	70	70
Total	186	137	164	118

Other payables - related parties

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	(in million Baht)			
Ultimate parent	3	3	3	2
Parent	39	43	36	42
Other related parties	24	21	21	19
Total	66	67	60	63

Payables to contractor - related party

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	(in million Baht)			
Other related party	27	7	27	7
Total	27	7	27	7

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Short-term borrowing from related party	Interest rate		Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017	2018	2017
	<i>(% per annum)</i>		<i>(in million Baht)</i>			
Subsidiary	-	-	-	-	-	-
Total borrowing from related party			-	-	-	-

Movements during the years ended 31 December of loans from related parties were as follows:

Short-term borrowing from related party	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	<i>(in million Baht)</i>			
Subsidiary				
At 1 January	-	-	-	310
Decrease	-	-	-	(310)
At 31 December	-	-	-	-

Significant agreements with related parties

At 31 December 2018, the Group has significant agreements with related parties as follow:

Methyl Ester Purchase and Sales Agreements

The Company has 3 Methyl Ester Purchase and Sales Agreements with parent company and 2 related party. Selling prices are determined based on B100 price announced by government and the adjustment as specified in each agreement. These agreements are for the periods from 3 months to 1 year, commencing from the effective date as specified in each agreement and expiring in March 2019 and December 2019. These agreements are renewable until either party terminates the agreement.

Methanol Sales Agreements

The Company has Methanol Sales Agreement with ultimate parent company. Selling prices is determined based on average Methanol price prevailing in the South East Asia region. This agreement is for the period of 1 year, commencing from the effective date as specified in the agreement and expiring in December 2019.

Utilities Purchase and Sales Agreements and Other Services Agreements

The Company has Hydrogen Purchase and Sale Agreement with parent company. Selling price is determined based on Natural Gas price for the industry. This agreement is for the period of 15 years, commencing from the effective date as specified in the agreement and expiring in March 2024.

The Group has 3 Utilities Purchase Agreements covering steam, electricity and water with a related party at the agreed quantities and prices as stipulated in the agreement. These agreements are for the period 15 years, commencing from the effective date as specified in each agreement and expiring in July 2023.

The Company has Tank Farm Storage and Service Agreement with a related party covering tank storage, utilities for product warehouse and transportation of Methanol. This agreement is for the period of 15 years, commencing from the effective date as specified in each agreement and expiring in September 2022, with the service charge as stipulated in the agreement.

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

The Company has Methyl Ester Tank Storage and Service Agreement with ultimate parent company and a related company. This agreement is for the period of 1 year, commencing from the effective date as specified in the agreement and expiring in March 2019 and December 2019, with the service charge as stipulated in the agreement.

The Company has Pipe rack Maintenance Agreement with a related party. The agreement is for the period of 15 years, commencing from the effective date as specified in agreement and expiring in August 2022, with the service charge as stipulated in the agreement.

The Company has Right to use pipe rack Agreements with ultimate parent company and parent company. These agreements are for the periods of 15 years, commencing from the effective date as specified in each agreement and expiring in April 2022 and August 2022, respectively with the service charge as stipulated in each agreements.

Service Agreements

The Group has Share Service Agreements with parent company for the provision of administration office, lab and quality service and general services. This agreement is for the period 1 year, commencing from the effective date as specified in the agreement and expiring in December 2019, with the service charge as stipulated in the agreement.

The Group has Design, Construction and Installation for Engineering Request Agreements, Plant Management and Maintenance, Engineering and Mechanical Equipment Inspection and Machinery Inspection Agreements with a related party. These agreements are for the periods from 1 year to 5 years, commencing from the effective date as specified in each agreement and expiring in August 2019, December 2019 and June 2023, respectively with the service charge as stipulated in each agreements.

The Company has Security and Fire Protection Agreement with a related party for receiving security and fire protection service to assets, employees, and visitors in the Company location. The agreement is for the period of 2 years, commencing from the effective date as specified in the agreement and expiring in December 2020, with the service charge as stipulated in the agreement.

The Company has Safety Inspector Agreement with a related party. The agreement is to inspect during working and in the Company location. The agreement is for the period 4 years, commencing from the effective date as specified in the agreement and expiring in December 2020, with the service charge as stipulated in the agreement.

The Company has Emergency Control and Management Agreement with a related party for consulting and safety training, occupational health & safety and environment, and set up emergency control centre. The agreement is for the period of 3 years, commencing from the effective date as specified in the agreement and expiring in December 2020, with the service charge as stipulated in the agreement.

The Company has Inventory Management Agreement for Incremental Methyl Ester with ultimate parent company. This agreement is for a period of 5 years, commencing from the effective date as specified in the agreement and expiring in March 2022, with the service charge as stipulated in the agreement.

Rental Agreements

The Group has Land Lease Agreements with parent company, for the periods of 30 years, commencing from the effective date as specified in each agreement and expiring in July 2036 with rental rate as stipulated in the agreements. The agreements can be extendable for another 20 years by providing not less than 1 year prior written notice to the lessor.

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

The Company has Office Rental and Service agreement with a related company. The agreement is for the period of 3 years and will expire in September 2021 with rental and service rate and conditions as stipulated in the agreement.

Borrowing and Lending Agreement

The Company has an uncommitted and unsecured short-term borrowing and lending agreement with a subsidiary with the borrowing and lending credit facility of Baht 500 million and Baht 200 million, respectively. The agreement is for the period of 3 years and will expire in December 2020. This facility bears interest based on market rate referenced to BIBOR plus margin.

6 Cash and cash equivalents

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	<i>(in million Baht)</i>			
Cash at banks - savings accounts	1,501	2,189	1,243	1,938
Cash at banks - foreign currency accounts	586	233	32	8
Highly liquid short-term investments	300	-	300	-
Total	2,387	2,422	1,575	1,946

7 Trade accounts receivable

		Consolidated financial statements		Separate financial statements	
	Note	2018	2017	2018	2017
		<i>(in million Baht)</i>			
Related parties	5	670	903	1,241	1,735
Other parties		577	939	121	248
Total		1,247	1,842	1,362	1,983
Less allowance for doubtful accounts		-	-	-	-
Net		1,247	1,842	1,362	1,983
Bad and doubtful debts expenses for the year		-	-	-	-

Aging analyses for trade accounts receivable were as follows:

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	<i>(in million Baht)</i>			
Related parties				
Within credit terms	670	903	1,241	1,735
Less allowance for doubtful accounts	-	-	-	-
Net	670	903	1,241	1,735

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	<i>(in million Baht)</i>			
Other parties				
Within credit terms	561	893	108	227
Overdue:				
Less than 3 months	16	46	13	21
	<u>577</u>	<u>939</u>	<u>121</u>	<u>248</u>
Less allowance for doubtful accounts	-	-	-	-
Net	<u>577</u>	<u>939</u>	<u>121</u>	<u>248</u>
Total	<u>1,247</u>	<u>1,842</u>	<u>1,362</u>	<u>1,983</u>

The normal credit term granted by the Group ranges from 7 days to 75 days.

8 Other receivables

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	<i>(in million Baht)</i>			
Prepaid expenses	40	32	96	29
Accrued income	7	5	22	4
Other account receivables	86	9	29	29
Others	8	4	7	4
Total	<u>141</u>	<u>50</u>	<u>154</u>	<u>66</u>

9 Inventories

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	<i>(in million Baht)</i>			
Finished goods	605	1,142	348	817
Work in progress	44	70	44	70
Raw materials	419	1,121	419	1,121
Spare parts and factory supplies	370	389	345	367
Goods in transit	56	58	31	3
Total	<u>1,494</u>	<u>2,780</u>	<u>1,187</u>	<u>2,378</u>
Less allowance for decline in value	(4)	(2)	(4)	(2)
Net	<u>1,490</u>	<u>2,778</u>	<u>1,183</u>	<u>2,376</u>

Inventories recognised as an expense in 'cost of sales of goods':				
- Cost	15,137	18,217	14,825	18,052
- Write-down to net realisable value	2	2	2	2
Net	<u>15,139</u>	<u>18,219</u>	<u>14,827</u>	<u>18,054</u>

10 Investments in subsidiaries

	Separate financial statements	
	2018	2017
	<i>(in million Baht)</i>	
At 1 January	1,685	1,685
Acquisition	1	-
At 31 December	<u>1,686</u>	<u>1,685</u>

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Investments in subsidiaries as at 31 December and dividend income from those investments for the years then ended were as follows:

	Ownership interest (%)		Paid-up capital		Cost		Impairment		At cost - net		Dividend income	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
Separate financial statements												
							<i>(in million Baht)</i>					
Subsidiaries												
Thai Fatty Alcohols Co., Ltd.	100	100	1,060	1,060	1,685	1,685	-	-	1,685	1,685	-	-
GGC Biochemical Co., Ltd.	100	-	1	-	1	-	-	-	1	-	-	-
Total			1,061	1,060	1,686	1,685	-	-	1,686	1,685	-	-

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Change in investment in subsidiary

At the Board of Directors' Meeting of the Company held on 27 November 2018, the Board approved to establish GGC Biochemical Co., Ltd. for investing in sugarcane and sugar businesses which is 100% owned by the Company. Subsequently on 18 December 2018, GGC Biochemical Co., Ltd. registered the initial authorised share capital of Baht 35 million and called for paid-up capital of 10,000 shares at Baht 100 per share, totaling Baht 1 million, of which fully received in December 2018.

11 Investments in associate and joint venture

<i>For the year ended 31 December</i>	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	<i>(in million Baht)</i>			
Associate				
At 1 January	45	16	47	17
Acquisition	20	30	20	30
Share of loss of investments in associate	(17)	(1)	-	-
At 31 December	48	45	67	47
Joint venture				
At 1 January	709	696	691	691
Share of profit of investments in joint venture	119	88	-	-
Share of other comprehensive income (loss) of investment in joint venture	-	(3)	-	-
Dividend income	(91)	(72)	-	-
At 31 December	737	709	691	691
Total				
At 1 January	754	712	738	708
Acquisition	20	30	20	30
Share of net profits of investments in associate and joint venture	102	87	-	-
Share of other comprehensive income (loss) of investment in associate and joint venture	-	(3)	-	-
Dividends income	(91)	(72)	-	-
At 31 December	785	754	758	738

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Investment in associate and joint venture as at 31 December and dividend income from the investment for the years then ended were as follows:

Consolidated financial statements										
	Ownership interest (%)		Paid-up capital		Cost		Equity		Impairment	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
	(in million Baht)									
Associate										
Thai Eastern Topseed Oil Co., Ltd.	30	30	222	156	67	47	48	45	-	-
					67	47	48	45	-	-
Joint venture										
Thai Ethoxylate Co., Ltd.	50	50	420	420	691	691	737	709	737	72
					691	691	737	709	91	72
Total					758	738	785	754	91	72

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

	Separate financial statements									
	Ownership interest (%)		Paid-up capital		Cost		Impairment		Equity - net	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
<i>Associate</i>										
Thai Eastern Top Seed Oil Co., Ltd.	30	30	222	156	67	47	-	-	67	47
					<u>67</u>	<u>47</u>	<u>-</u>	<u>-</u>	<u>67</u>	<u>47</u>
<i>Joint venture</i>										
Thai Ethoxylate Co., Ltd.	50	50	420	420	691	691	-	-	691	691
					<u>691</u>	<u>691</u>	<u>-</u>	<u>-</u>	<u>691</u>	<u>691</u>
Total					<u>758</u>	<u>738</u>	<u>-</u>	<u>-</u>	<u>758</u>	<u>738</u>
									<u>91</u>	<u>72</u>

None of the Group's associate and joint venture are publicly listed and consequently do not have published price quotations.

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Associate and Joint venture

The following table summarises the financial information of the associate and joint venture as included in their own financial statements, adjusted for differences in accounting policies.

	Thai Ethoxylate Co., Ltd.		Thai Eastern Top Seed Oil Co., Ltd.	
	2018	2017	2018	2017
	(in million Baht)			
For the year ended 31 December				
Statement of income				
Revenue	4,343	4,814	311	106
Profit (loss)	245	183	(57)	(3)
Other comprehensive income (loss)	-	(6)	-	-
Total comprehensive income (loss) (100%)	245	177	(57)	(3)
Total comprehensive income (loss) of the Group's interest	123	89	(17)	(1)
Elimination of unrealised profit	(3)	(4)	-	-
Group's share of total comprehensive income (loss)	120	85	(17)	(1)
As at 31 December	2018	2017	2018	2017
	(in million Baht)			
Statement of financial position				
Current assets	1,791	1,830	107	83
Non-current assets	401	422	353	300
Current liabilities	(688)	(811)	(170)	(76)
Non-current liabilities	(21)	(20)	(129)	(155)
Net assets (100%)	1,483	1,421	161	152
Group's share of net assets	742	711	48	45
Elimination of unrealised profit	(5)	(2)	-	-
Carrying amount of investments in associate and joint venture	737	709	48	45

Thai Ethoxylate
Co., Ltd.
2018 2017
(in million Baht)

Remark:

a. Includes:		
– depreciation and amortisation	46	41
– interest expense	-	1
– income tax expense	29	20
b. Includes cash and cash equivalents	764	298
c. Includes current financial liabilities (excluding trade and other payables and provisions)	1	4
d. Includes non-current financial liabilities (excluding trade and other payables and provisions)	21	20

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Change in investment in associate

During the year ended 31 December 2018, Thai Eastern Top Seeds Oil Company Limited has called for paid-up capital from the capital increase by the Board of Directors' Meeting held on 14 August 2018 for the purpose of the Company's working capital at Baht 29.89 per share, 665,999 shares, totalling Baht 19.91 million, of which fully received in September 2018.

During the year ended 31 December 2017, Thai Eastern Top Seeds Oil Company Limited has called for paid-up capital from the capital increase by the Board of Directors' Meeting held on 16 December 2016 for the purpose of the Company's working capital at Baht 45.11 per share, 665,999 shares, totalling Baht 30.04 million, of which fully received in April 2017.

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

12 Plant and equipment

Consolidated financial statements

	Plant, machinery, factory tools and equipment	Buildings and buildings improvement	Land improvement	Furniture, fixtures and office equipment	Vehicles	Assets under construction	Total
				<i>(in million Baht)</i>			
Cost							
At 1 January 2017	7,289.73	689.60	43.20	12.99	23.35	95.59	8,154.46
Additions	30.12	0.78	0.58	2.65	2.00	1,003.00	1,039.13
Transfers	61.20	1.60	-	-	-	(62.80)	-
Disposals	(0.66)	-	-	(1.45)	-	(1.67)	(3.78)
At 31 December 2017 and 1 January 2018	7,380.39	691.98	43.78	14.19	25.35	1,034.12	9,189.81
Additions	33.27	-	-	5.11	3.26	804.20	845.84
Transfers	76.96	24.77	3.00	-	-	(104.73)	-
Disposals	(0.87)	-	-	(1.91)	(1.65)	-	(4.43)
At 31 December 2018	7,489.75	716.75	46.78	17.39	26.96	1,733.59	10,031.22
Depreciation							
At 1 January 2017	(3,644.83)	(298.66)	(23.34)	(9.10)	(12.04)	-	(3,987.97)
Depreciation charge for the year	(457.49)	(34.74)	(2.12)	(1.81)	(3.06)	-	(499.22)
Disposals	0.45	-	-	1.45	-	-	1.90
At 31 December 2017 and 1 January 2018	(4,101.87)	(333.40)	(25.46)	(9.46)	(15.10)	-	(4,485.29)
Depreciation charge for the year	(403.52)	(35.02)	(2.16)	(2.48)	(3.25)	-	(446.43)
Disposals	0.81	-	-	1.91	0.92	-	3.64
At 31 December 2018	(4,504.58)	(368.42)	(27.62)	(10.03)	(17.43)	-	(4,928.08)

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Consolidated financial statements						
	Plant, machinery, factory tools and equipment	Buildings and buildings improvement	Land improvement	Furniture, fixtures and office equipment	Vehicles	Assets under construction
	<i>(in million Baht)</i>					
Net book value						
At 1 January 2017						
Owned assets	3,644.90	390.94	19.86	1.23	-	95.59
Assets under finance leases	-	-	-	2.66	11.31	-
	<u>3,644.90</u>	<u>390.94</u>	<u>19.86</u>	<u>3.89</u>	<u>11.31</u>	<u>95.59</u>
						<u>4,152.52</u>
						<u>13.97</u>
						<u>4,166.49</u>
At 31 December 2017 and 1 January 2018						
Owned assets	3,278.52	358.58	18.32	1.59	0.38	1,034.12
Assets under finance leases	-	-	-	3.14	9.87	-
	<u>3,278.52</u>	<u>358.58</u>	<u>18.32</u>	<u>4.73</u>	<u>10.25</u>	<u>1,034.12</u>
						<u>4,691.51</u>
						<u>13.01</u>
						<u>4,704.52</u>
At 31 December 2018						
Owned assets	2,985.17	348.33	19.16	4.12	0.33	1,733.59
Assets under finance leases	-	-	-	3.24	9.20	-
	<u>2,985.17</u>	<u>348.33</u>	<u>19.16</u>	<u>7.36</u>	<u>9.53</u>	<u>1,733.59</u>
						<u>5,090.70</u>
						<u>12.44</u>
						<u>5,103.14</u>

The gross amount of the Group's fully depreciated plant and equipment that was still in use as at 31 December 2018 amounted to Baht 1,230.06 million (2017: Baht 74.33 million).

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Separate financial statements

	Plant, machinery, factory tools and equipment	Buildings and buildings improvement	Land improvement	Furniture, fixtures and office equipment	Vehicles	Assets under construction	Total
				<i>(in million Baht)</i>			
Cost							
At 1 January 2017	6,576.66	598.51	42.18	12.88	23.35	94.91	7,348.49
Additions	30.12	0.78	0.58	2.59	2.00	986.41	1,022.48
Transfers	56.19	1.60	-	-	-	(57.79)	-
Disposals	(0.66)	-	-	(1.45)	-	(1.67)	(3.78)
At 31 December 2017 and 1 January 2018	6,662.31	600.89	42.76	14.02	25.35	1,021.86	8,367.19
Additions	33.07	-	-	5.11	3.26	798.11	839.55
Transfers	62.08	24.77	3.00	-	-	(89.85)	-
Disposals	(0.87)	-	-	(1.91)	(1.65)	-	(4.43)
At 31 December 2018	6,756.59	625.66	45.76	17.22	26.96	1,730.12	9,202.31
Depreciation							
At 1 January 2017	(3,308.60)	(260.71)	(22.86)	(8.99)	(12.04)	-	(3,613.20)
Depreciation charge for the year	(413.10)	(30.19)	(2.08)	(1.79)	(3.06)	-	(450.22)
Disposals	0.45	-	-	1.45	-	-	1.90
At 31 December 2017 and 1 January 2018	(3,721.25)	(290.90)	(24.94)	(9.33)	(15.10)	-	(4,061.52)
Depreciation charge for the year	(362.73)	(30.46)	(2.13)	(2.46)	(3.25)	-	(401.03)
Disposals	0.81	-	-	1.91	0.92	-	3.64
At 31 December 2018	(4,083.17)	(321.36)	(27.07)	(9.88)	(17.43)	-	(4,458.91)

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

		Separate financial statements					
		Plant, machinery, factory tools and equipment	Buildings and buildings improvement	Land improvement	Furniture, fixtures and office equipment	Vehicles	Assets under construction
		<i>(in million Baht)</i>					
							Total
Net book value							
At 1 January 2017							
Owned assets		3,268.06	337.80	19.32	1.23	-	3,721.32
Assets under finance leases		-	-	-	2.66	11.31	13.97
		3,268.06	337.80	19.32	3.89	11.31	3,735.29
At 31 December 2017 and 1 January 2018							
Owned assets		2,941.06	309.99	17.82	1.55	0.38	4,292.66
Assets under finance leases		-	-	-	3.14	9.87	13.01
		2,941.06	309.99	17.82	4.69	10.25	4,305.67
At 31 December 2018							
Owned assets		2,673.42	304.30	18.69	4.10	0.33	4,730.96
Assets under finance leases		-	-	-	3.24	9.20	12.44
		2,673.42	304.30	18.69	7.34	9.53	4,743.40

The gross amount of the Company's fully depreciated plant and equipment that was still in use as at 31 December 2018 amounted to Baht 1,105.47 million (2017: Baht 64.81 million).

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

13 Intangible assets

Consolidated financial statements				
	Production license fees	Goodwill <i>(in million Baht)</i>	Other intangible assets	Total
Cost				
At 1 January 2017	87.82	33.53	8.20	129.55
Additions	-	-	0.31	0.31
At 31 December 2017 and 1 January 2018	87.82	33.53	8.51	129.86
Additions	-	-	4.05	4.05
Disposals	-	-	(0.05)	(0.05)
At 31 December 2018	87.82	33.53	12.51	133.86
Amortisation				
At 1 January 2017	(43.16)	-	(5.99)	(49.15)
Amortisation charge for the year	(4.39)	-	(0.54)	(4.93)
At 31 December 2017 and 1 January 2018	(47.55)	-	(6.53)	(54.08)
Amortisation charge for the year	(4.39)	-	(0.86)	(5.25)
Disposals	-	-	0.05	0.05
At 31 December 2018	(51.94)	-	(7.34)	(59.28)
Net book value				
At 1 January 2017	44.66	33.53	2.21	80.40
At 31 December 2017 and 1 January 2018	40.27	33.53	1.98	75.78
At 31 December 2018	35.88	33.53	5.17	74.58
Separate financial statements				
	Production license fees		Other intangible assets	Total
			<i>(in million Baht)</i>	
Cost				
At 1 January 2017	87.82		8.20	96.02
Additions	-		0.13	0.13
At 31 December 2017 and 1 January 2018	87.82		8.33	96.15
Additions	-		4.05	4.05
Disposals	-		(0.05)	(0.05)
At 31 December 2018	87.82		12.33	100.15
Amortisation				
At 1 January 2017	(43.16)		(5.99)	(49.15)
Amortisation charge for the year	(4.39)		(0.52)	(4.91)
At 31 December 2017 and 1 January 2018	(47.55)		(6.51)	(54.06)
Amortisation charge for the year	(4.39)		(0.84)	(5.23)
Disposals	-		0.05	0.05
At 31 December 2018	(51.94)		(7.30)	(59.24)

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

	Separate financial statements		
	Production license fees	Other intangible assets	Total
	(in million Baht)		
Net book value			
At 1 January 2017	44.66	2.21	46.87
At 31 December 2017 and 1 January 2018	40.27	1.82	42.09
At 31 December 2018	35.88	5.03	40.91

14 Deferred tax

Deferred tax assets and liabilities as at 31 December were as follows:

	Consolidated financial statements			
	Assets		Liabilities	
	2018	2017	2018	2017
	(in million Baht)			
Total	382.83	29.13	(6.00)	(8.76)
Set off of tax	(6.00)	(7.23)	6.00	7.23
Net deferred tax assets (liabilities)	376.83	21.90	-	(1.53)

	Separate financial statements			
	Assets		Liabilities	
	2018	2017	2018	2017
	(in million Baht)			
Total	270.19	29.13	(4.36)	(7.23)
Set off of tax	(4.35)	(7.23)	4.36	7.23
Net deferred tax assets	265.84	21.90	-	-

Movements in total deferred tax assets and liabilities during the year were as follows:

	Consolidated financial statements		
	(Charged) / credited to:		
	At 1 January 2018	Profit or loss (note 27)	At 31 December 2018
		comprehensive income	
	(in million Baht)		
Deferred tax assets			
Provision for employee benefit	11.12	1.76	12.88
Plant and equipment	18.01	0.77	18.78
Loss carry forward	-	351.17	351.17
Total	29.13	353.70	382.83
Deferred tax liabilities			
Plant and equipment	(5.86)	0.28	(5.58)
Inventory	(2.90)	2.90	-
Bank charge for credit	-	(0.42)	(0.42)
Total	(8.76)	2.76	(6.00)
Net	20.37	356.46	376.83

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

	Consolidated financial statements		
	(Charged) / credited to:		
At 1 January 2018	Profit or loss (note 27)	Other comprehensive income	At 31 December 2018
	(in million Baht)		
Deferred tax assets			
Provision for employee benefit	7.12	1.77	11.12
Plant and equipment	15.80	2.21	18.01
Total	22.92	2.23	29.13
Deferred tax liabilities			
Plant and equipment	(5.78)	-	(5.86)
Inventory	-	(2.90)	(2.90)
Total	(5.78)	-	(8.76)
Net	17.14	2.23	20.37

	Separate financial statements		
	(Charged) / credited to:		
At 1 January 2018	Profit or loss (note 27)	Other comprehensive income	At 31 December 2018
	(in million Baht)		
Deferred tax assets			
Provision for employee benefit	11.12	1.77	12.89
Plant and equipment	18.01	0.41	18.42
Loss carry forward	-	238.88	238.88
Total	29.13	-	270.19
Deferred tax liabilities			
Plant and equipment	(4.31)	0.38	(3.93)
Inventory	(2.92)	2.92	-
Bank charge for credit	-	(0.42)	(0.42)
Total	(7.23)	-	(4.35)
Net	21.90	-	265.84

	Separate financial statements		
	(Charged) / credited to:		
At 1 January 2018	Profit or loss (note 27)	Other comprehensive income	At 31 December 2018
	(in million Baht)		
Deferred tax assets			
Provision for employee benefit	7.12	1.77	11.12
Plant and equipment	15.80	2.21	18.01
Total	22.92	2.23	29.13

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

	At 1 January 2018	Separate financial statements (Charged) / credited to:		At 31 December 2018
		Profit or loss (note 27) (in million Baht)	Other comprehensive income	
Deferred tax liabilities				
Plant and equipment	(3.85)	(0.46)	-	(4.31)
Inventory	-	(2.92)	-	(2.92)
Total	(3.85)	(3.38)	-	(7.23)
Net	19.07	0.60	2.23	21.90

15 Interest-bearing liabilities

Interest bearing liabilities are defined as borrowings and finance lease liabilities which are as follows;

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	(in million Baht)			
Current				
Current portion of long-term borrowings from financial institutions				
Unsecured	338	280	338	280
Current portion of long-term borrowings	338	280	338	280
Current portion of finance lease liabilities	4	4	4	4
Total current interest-bearing liabilities	342	284	342	284
Non-current				
Long-term borrowings from financial institutions				
Unsecured	1,773	2,111	1,773	2,111
Less Deferred financing service fee	(5)	(6)	(5)	(6)
Long-term borrowings	1,768	2,105	1,768	2,105
Finance lease liabilities	11	11	11	11
Total non-current interest-bearing liabilities	1,779	2,116	1,779	2,116
Total	2,121	2,400	2,121	2,400

The periods to maturity of interest-bearing liabilities, excluding finance lease liabilities, as at 31 December were as follows:

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	(in million Baht)			
Within one year	338	280	338	280
After one year but within five years	1,768	2,105	1,768	2,105
Total	2,106	2,385	2,106	2,385

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Loans from financial institutions

Details of the Group's loans with 3 financial institutions as at 31 December 2018 were as follows:

Currency	Facilities (in million)	Interest Rates (%) p.a	Repayment Terms
Baht	900	FDR 6 M plus margin	Principal is repayable on semi-annual basis, in 14 instalments commencing from April 2016.
Baht	900	FDR 6 M plus margin	Principal is repayable on semi-annual basis, in 14 instalments commencing from May 2016.
Baht	900	FDR 6 M plus margin	Principal is repayable on semi-annual basis, in 12 instalments commencing from May 2017.

As at 31 December 2018, the Group had unutilised credit facilities totalling Baht 100 million (2017: Baht 100 million).

The Company is required to comply with certain covenants pertaining to maintenance of certain financial ratios, percentage of share held by the major shareholder and other conditions as specified in each agreement.

16 Trade accounts payable

		Consolidated financial statements		Separate financial statements	
	Note	2018	2017	2018	2017
		(in million Baht)			
Related parties	5	186	137	164	118
Other parties		555	273	551	269
Total		741	410	715	387

17 Other payables

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	(in million Baht)			
Other account payables	168	142	133	119
Accrued operating expenses	69	137	65	127
Advances received for goods	20	30	6	14
Value-added tax payable	15	49	15	49
Others	15	11	13	11
Total	287	369	232	320

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

18 Non-current provisions for employee benefits

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	<i>(in million Baht)</i>			
Statement of financial position				
Non-current provisions for:				
Post-employment benefits	50.10	43.15	50.10	43.15
Other long-term employee benefits	12.51	10.84	12.51	10.84
Total	62.61	53.99	62.61	53.99
For the year ended 31 December				
Statement of comprehensive income:				
Recognised in profit or loss:				
Post-employment benefits	6.95	4.13	6.95	4.13
Other long-term employee benefits	1.75	3.13	1.75	3.13
Total	8.70	7.26	8.70	7.26
Recognised in other comprehensive income:				
Actuarial losses recognised in the year	-	13.07	-	13.07
Cumulative actuarial losses recognised	20.59	20.59	20.59	20.59

Movement in the present value of the defined benefit obligations:

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	<i>(in million Baht)</i>			
At 1 January	43.15	25.95	43.15	25.95
Include in profit or loss:				
Current service costs	5.69	3.04	5.69	3.04
Interest on obligation	1.26	1.09	1.26	1.09
	6.95	4.13	6.95	4.13
Included in other comprehensive income				
Actuarial losses	-	13.07	-	13.07
	-	13.07	-	13.07
At 31 December	50.10	43.15	50.10	43.15

Actuarial losses recognised in other comprehensive income arising from:

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	<i>(in million Baht)</i>			
Demographic assumptions	-	8.83	-	8.83
Financial assumptions	-	0.80	-	0.80
Experience adjustment	-	3.44	-	3.44
Total	-	13.07	-	13.07

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Actuarial assumptions

Principal actuarial assumptions at the reporting date: (expressed as weighted averages).

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
		(%)		
Discount rate as at 31 December	2.9	2.9	2.9	2.9
Future salary increases	7.0	7.0	7.0	7.0
Resignation rate	0-3.0	0-3.0	0-3.0	0-3.0
Retirement age	60 Years	60 Years	60 Years	60 Years

Assumptions regarding future mortality have been based on published statistics and mortality tables.

At 31 December 2018, the weighted-average duration of the defined benefit obligation was 18 years (2017: 18 years).

Sensitivity analysis

Reasonably possible changes at the reporting date to one of the relevant actuarial assumptions, holding other assumptions constant, would have affected the defined benefit obligation by the amounts shown below.

	Consolidated financial statements		Separate financial statements	
	Increase	Decrease	Increase	Decrease
		(in million Baht)		
At 31 December 2018				
Discount rate (1% movement)	(9.40)	11.50	(9.40)	11.50
Future salary growth (1% movement)	9.19	(7.66)	9.19	(7.66)
At 31 December 2017				
Discount rate (1% movement)	(8.10)	9.91	(8.10)	9.91
Future salary growth (1% movement)	7.91	(6.60)	7.91	(6.60)

Although the analysis does not take account of the full distribution of cash flows expected under the plan, it does provide an approximation of the sensitivity of the assumptions shown.

On 13 December 2018, the National Legislative Assembly passed a resolution approving the draft of a new Labor Protection Act, which is in the process being published in the Royal Gazette. The new Labor Protection Act stipulates additional legal severance pay rate for employees who have worked for an uninterrupted period of twenty years or more. Such employees are entitled to receive compensation at a rate of not less than that of 400 days. This change is considered a post-employment benefits plan amendment and the Group have additional liabilities for long-term employee benefits in the consolidated and separate financial statements approximately Baht 16 million (owners of the parent net of tax approximately Baht 13 million). The Group will reflect the effect of this change by recognizing past service cost as expenses in the income statement of the period in which the law is effective.

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

19 Share capital

	Par value per share (in Baht)	2018		2017	
		Number	Amount (in million shares / million Baht)	Number	Amount
Authorised					
At 1 January					
- ordinary shares	10	1,048.3	10,483	1,048.3	10,483
At 31 December					
- ordinary shares	10	1,048.3	10,483	1,048.3	10,483
Issued and paid-up					
At 1 January					
- ordinary shares	10	1,023.7	10,237	740.0	7,400
Issues new shares	10	-	-	283.7	2,837
At 31 December					
- ordinary shares	10	1,023.7	10,237	1,023.7	10,237

Initial Public Offering

On 2 May 2017, the Company completed its Initial Public Offering (“IPO”) on the Stock Exchange of Thailand by issuing 246.67 million new ordinary shares with an offering price of Baht 11.20 per share (par value of Baht 10 per share and share premium of Baht 1.20 per share) amounting to Baht 2,763 million. Directly attributable expenses of the initial public offering totalling Baht 121 million were deducted from the premium on share capital received from the offering. The Company offered over-allotment no more than 15% of the total number of shares offered for sale or in amount not exceeding 37 million shares, which is a method to stabilizing the price level of securities as allowed by the Securities and Exchange Commission Thailand. Subsequently, on 31 May 2017, the Over-allotment Agent informed the Company of its intention to exercise an over-allotment option in order to purchase 37 million newly issued ordinary shares from the Company with an offering price of Baht 11.20 per share (par value of Baht 10 per share and share premium of Baht 1.20 per share) amounting to Baht 414 million. The Company sell these shares to the Over-allotment Agent on 2 June 2017. Therefore, the Company received proceeds from issuing 283.67 million ordinary shares with price of Baht 11.20 per share, totalling of Baht 3,177 million.

20 Additional paid-in capital and reserves

Share premium

Section 51 of the Public Companies Act B.E. 2535 requires companies to set aside share subscription monies received in excess of the par value of the shares issued to a reserve account (“share premium”). Share premium is not available for dividend distribution.

Difference arising from business combination under common control

Difference on common control transactions arising within equity represents the difference of the book values of certain entities or businesses under common control under their cost as of the date of their acquisition. The reserve is non-distributable and will be retained until the respective business are sold or otherwise disposed of.

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Legal reserve

Section 116 of the Public Companies Act B.E. 2535 requires that a company shall allocate not less than 5% of its annual net profit, less any accumulated losses brought forward (if any), to a reserve account ("legal reserve"), until this account reaches an amount not less than 10% of the registered authorised capital. The legal reserve is not available for dividend distribution.

21 Segment information

The Group has significant business segments which offer different products and services, and are managed separately. For each of the business segments, the chief operating decision maker (CODM) reviews internal management reports on at least a quarterly basis. The operations in each of the Group's reportable segments have 2 reportable segments as described below.

Segment 1	Methyl ester
Segment 2	Fatty alcohols

Other operations in 2018 and 2017, none of these segments meets the quantitative thresholds for determining additional reportable segments.

Performance information of each reportable segment is measured based on segment profit before interest expense, tax, depreciation and amortisation which as included in the internal management reports that are reviewed by the Group's CODM. Management believes that using profit before interest expense, tax, depreciation and amortisation to measure performance is the most relevant in evaluating the results of certain segments relative to other entities that operate within these industries.

Information about reporting segments for the year ended 31 December 2018

	Methyl ester	Fatty alcohols	Elimination	Total
				<i>(in million Baht)</i>
External revenues	9,913	6,312	-	16,225
Total segment revenues	9,913	6,312	-	16,225
Cost of sales and services	(9,149)	(5,477)	-	(14,626)
Selling and distribution expenses and administrative expenses	(432)	(343)	-	(775)
Profit before interest expense, tax, depreciation and amortisation	429	494	-	923
Interest income	16	32	-	48
Finance costs	(35)	(37)	-	(72)
Depreciation and amortisation	(187)	(334)	-	(521)
Share of profit of investments in associate and joint venture	-	102	-	102
Expenses from raw materials derogation	(1,688)	(316)	-	(2,004)
Others	6	-	-	6
Loss before tax	(1,459)	(58)	-	(1,517)
Net profit (loss) for reportable segment	(1,216)	55	-	(1,161)

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Information about reporting segments for the year ended 31 December 2017

	Methyl ester	Fatty alcohols	Elimination	Total
		(in million Baht)		
External revenues	11,659	7,813	-	19,472
Total segment revenues	11,659	7,813	-	19,472
Cost of sales and services	(10,928)	(6,731)	-	(17,659)
Selling and distribution expenses and administrative expenses	(394)	(333)	-	(727)
Profit before interest expense, tax, depreciation and amortisation	383	755	-	1,138
Interest income	17	15	(2)	30
Finance costs	(28)	(61)	2	(87)
Depreciation and amortisation	(212)	(352)	-	(564)
Share of profit of investments in associate and joint venture	-	87	-	87
Others	(25)	(56)	-	(81)
Profit before tax	135	388	-	523
Net profit for reportable segment	134	387	-	521

	Methyl ester	Fatty alcohols	Elimination	Total
		(in million Baht)		
As at 31 December 2018				
Investments in and associate joint venture	-	785	-	785
Capital expenditure	498	447	-	945
Segment assets	6,767	8,833	(2,516)	13,084
Segment liabilities	1,972	1,405	-	3,377

As at 31 December 2017				
Investments in and associate joint venture	-	754	-	754
Capital expenditure	514	525	-	1,039
Segment assets	5,591	10,595	(1,651)	14,535
Segment liabilities	1,905	1,557	-	3,462

Geographical segments

In presenting information on the basis of geographical segments, segment sales and service revenues are based on the geographical location of customers. Segment non-current assets (exclude derivatives and deferred tax) are based on the geographical location of the assets.

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Geographical information

	Revenues	
	2018	2017
	<i>(in million Baht)</i>	
Thailand	12,089	14,121
The People's Republic of China	1,256	1,480
India	654	1,059
Korea	345	555
Other countries	1,881	2,257
Total	16,225	19,472

The Group is managed and operates principally in Thailand and no assets located in foreign countries.

Major customers

The Group's sales and service revenues mainly comprise of revenue from one customer of Methyl ester segment represents Baht 2,331 million (2017: Baht 5,242 million).

22 Selling and distribution expenses

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	<i>(in million Baht)</i>			
Distribution	381	360	224	211
Promotional	18	26	3	3
Total	399	386	227	214

23 Administrative expenses

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	<i>(in million Baht)</i>			
Personnel	125	120	125	120
Secondment fee	60	67	60	67
Share service fees	33	23	27	21
Depreciation and amortisation	8	5	8	5
Others	155	131	142	119
Total	381	346	362	332

24 Employee benefit expenses

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	<i>(in million Baht)</i>			
Salaries, bonus, wages and other welfares	222	218	222	218
Contribution to provident funds	9	8	9	8
Post-employment benefits	7	4	7	4
Other long-term employee benefits	2	3	2	3
Total	240	233	240	233

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Defined benefit plans

Details of the defined benefit plans are given in note 18.

Defined contribution plans

The defined contribution plans comprise provident funds established by the Company for its employees. Membership to the funds is on a voluntary basis. Contributions are made monthly by the employees at the minimum rate as required by law not exceeding 15% of their basic salaries and the Company contributes at the minimum rate as required by law not exceeding 15% of the employees' basic salaries. The provident funds are registered with the Ministry of Finance as juristic entities and are managed by a licensed Fund Manager.

25 Expenses by nature

The statements of income include an analysis of expenses by function. Expenses by nature disclosed in accordance with the requirements of various TFRS were as follows:

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	(in million Baht)			
Changes in inventories of finished goods and work in progress	(595)	(1,005)	(886)	(1,063)
Raw materials and consumables used	14,093	17,570	14,262	17,663
Depreciation	446	499	401	450
Amortisation	75	65	75	65
Employee benefit expenses	240	233	240	233
Distribution	381	360	224	211
Expenses from raw materials derogation	2,004	-	2,004	-
Others	1,277	1,229	1,100	1,041
Total cost of sales of goods, selling and distribution expenses and administrative expenses	17,921	18,951	17,420	18,600

26 Finance costs

		Consolidated financial statements		Separate financial statements	
Note		2018	2017	2018	2017
		(in million Baht)			
Interest expense:					
Related party	5	-	-	-	6
Bank loans		81	94	81	94
Total interest expense		81	94	81	100
Other finance costs		2	4	2	3
Total		83	98	83	103
Less amounts included in the cost of plant and equipment under construction		(11)	(11)	(11)	(11)
Net		72	87	72	92

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

27 Income tax expense

Income tax recognised in profit or loss

		Consolidated financial statements		Separate financial statements	
	Note	2018	2017	2018	2017
		<i>(in million Baht)</i>			
Current tax expense					
Current year		-	-	-	-
Under provided in prior year		-	2.75	-	2.75
		<u>-</u>	<u>2.75</u>	<u>-</u>	<u>2.75</u>
Deferred tax expense					
Movements in temporary differences	14	(356.46)	(1.00)	(243.94)	(0.60)
Total		<u>(356.46)</u>	<u>1.75</u>	<u>(243.94)</u>	<u>2.15</u>

Reconciliation of effective tax rate

	Consolidated financial statements			
	2018		2017	
	Rate (%)	(in million Baht)	Rate (%)	(in million Baht)
Profit (loss) before income tax expense		(1,517.23)		522.69
Income tax using the Thai corporation tax rate	20.00	-	20.00	104.54
Income not subject to tax		(17.03)		(84.70)
Utilisation tax losses		-		(23.72)
Loss carry forward which deferred tax asset was recognised		(351.17)		-
Expenses not deductible for tax purposes		11.74		2.88
Under provided in prior year		-		2.75
Total	-	<u>(356.46)</u>	<u>0.33</u>	<u>1.75</u>

	Separate financial statements			
	2018		2017	
	Rate (%)	(in million Baht)	Rate (%)	(in million Baht)
Profit (loss) before income tax expense		(1,761.78)		312.23
Income tax using the Thai corporation tax rate	20.00	-	20.00	62.45
Income not subject to tax		(16.35)		(66.01)
Loss carry forward which deferred tax asset was recognised		(238.88)		-
Expenses not deductible for tax purposes		11.29		2.96
Under provided in prior year		-		2.75
Total	-	<u>(243.94)</u>	<u>0.69</u>	<u>2.15</u>

Income tax reduction

Revenue Code Amendment Act No. 42 B.E. 2559 dated 3 March 2016 grants a reduction of the corporate income tax rate to 20% of net taxable profit for accounting periods which begin on or after 1 January 2016.

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

28 Promotional privileges

By virtue of the provisions of the Industrial Investment Promotion Act of B.E. 2520, the Company has been granted privileges by the Board of Investment relating to production and distribution of Methyl ester, Fatty alcohols, Glycerin and Potassium sulfate. The privileges granted include:

- (a) Exemption from payment of import duty and tax on machinery approved by the Board;
- (b) exemption from payment of income tax for certain operations for a period of eight years from the date on which the income is first derived from such operations; (1 January 2008) and
- (c) a 50% reduction in the normal income tax rate on the net profit derived from certain operations for a period of five years, commencing from the expiry date in (b) above.

As promoted companies, the Company must comply with certain terms and conditions prescribed in the promotional certificates.

Summary of revenues from promoted and non-promoted businesses:

	Separate financial statements					
	2018			2017		
	Promoted businesses	Non-promoted businesses	Total	Promoted businesses	Non-promoted businesses	Total
	<i>(in million Baht)</i>					
Export sales	-	15,103	15,103	-	523	523
Local sales	-	366	366	-	18,358	18,358
Total revenue	-	15,469	15,469	-	18,881	18,881

29 Basic earnings (loss) per share

The calculations of basic earnings (loss) per share for the years ended 31 December were based on the profit (loss) for the years attributable to ordinary shareholders of the Company and the weighted average number of ordinary shares outstanding during the years as follows:

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	<i>(in million Baht / million shares)</i>			
Profit (loss) attributable to ordinary shareholders of the Company (basic)	<u>(1,160.77)</u>	<u>520.94</u>	<u>(1,517.84)</u>	<u>310.08</u>
Number of ordinary shares outstanding at 1 January	1,023.67	740.00	1,023.67	740.00
Effect of shares issued	<u>-</u>	<u>189.87</u>	<u>-</u>	<u>189.87</u>
Weighted average number of ordinary shares outstanding (basic)	<u>1,023.67</u>	<u>929.87</u>	<u>1,023.67</u>	<u>929.87</u>
Basic earnings (loss) per share (in Baht)	<u>(1.13)</u>	<u>0.56</u>	<u>(1.48)</u>	<u>0.33</u>

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

30 Dividends

At the Annual General Meeting of the shareholders of the Company held on 5 April 2018, the shareholders approved the appropriation of annual dividend for year 2017 at Baht 0.35 per share, amounting to Baht 358.3 million. The Company had paid an interim dividend at Baht 0.15 per share, amounting to Baht 153.6 million in September 2017. The remaining dividend will be paid at Baht 0.20 per share, amounting to Baht 204.7 million to the shareholders entitled to receive dividends. The dividend was paid to the shareholders in April 2018.

At the Board of Meeting of the Company held on 9 August 2017, the Board approved the appropriation of dividends of Baht 0.15 per share amounting to Baht 154 million. The dividend was paid to the shareholders in September 2017.

At the Annual General Meeting of the shareholders of the Company held on 21 March 2017, the shareholders approved the appropriation of annual dividend for year 2016 at Baht 1.70 per share, amounting to Baht 1,258 million. The Company had paid an interim dividend at Baht 1.35 per share, amounting to Baht 999 million. The remaining dividend was paid at Baht 0.35 per share, amounting to Baht 259 million to the shareholders entitled to receive dividends. The dividend was paid to the shareholders in April 2017.

31 Financial instruments

Financial risk management policies

The Group is exposed to normal business risks from changes in market interest rates and currency exchange rates and from non-performance of contractual obligations by counterparties. The Group does not hold or issue derivatives for speculative or trading purposes.

Risk management is integral to the whole business of the Group. The management continually monitors the Group's risk management process to ensure that an appropriate balance between risk and control is achieved.

Capital management

The Board of Directors' policy is to maintain a strong capital base so as to maintain investor, creditor, partners and other stakeholders. In addition, the Board monitors the return on capital, and the level of dividends to ensure business sustainability.

Interest rate risk

Interest rate risk is the risk that future movements in market interest rates will affect the results of the Group's operations and its cash flows because the Group's loan interest rates for their operations. The Group has managed this risk to ensure the appropriateness to the business operation.

The interest rates of interest-bearing liabilities at 31 December 2018 and 2017 and the periods in which those liabilities mature or re-price were disclosed in note 15.

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Foreign currency risk

The Group is exposed to foreign currency risk relating to purchases and sales which are denominated in foreign currencies. The Group primarily utilizes forward exchange contracts to hedge such financial assets and liabilities denominated in foreign currencies. The forward exchange contracts entered into at the reporting date also relate to anticipated purchases and sales, denominated in foreign currencies, for the subsequent period.

At 31 December, the Group and the Company were exposed to foreign currency risk in respect of financial assets and liabilities denominated in the following currencies:

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	<i>(in million Baht)</i>			
USD				
Cash and cash equivalents	586	233	32	8
Trade accounts receivable	371	624	7	43
Other receivables	9	-	9	-
Trade accounts payable	(16)	(2)	(16)	(2)
Other payables	(37)	(49)	(15)	(22)
Gross statement of financial position exposure	913	806	17	27
Currency forwards	(81)	17	-	17
Euro				
Other payables	(10)	(4)	(8)	(4)
Gross statement of financial position exposure	(10)	(4)	(8)	(4)
Currency forwards	(14)	-	(14)	-

At 31 December 2018, the Company had sell forward contracts of USD 2.50 million equivalent Baht 81 million and EUR 0.36 million equivalent Baht 14 million (2017: USD 0.52 million equivalent Baht 17 million).

Credit risk

Credit risk is risk of failure from a customer or a counterparty to settle its obligations to the Group as and when they fall due.

Management has a policy in place and the exposure to credit risk is monitored on an ongoing basis. Credit evaluations are performed on all customers requiring credit over a certain amount. At the reporting date, there were no significant concentrations of credit risk. The maximum exposure to credit risk is represented by the carrying amount of each financial asset in the statement of financial position. However, the majority of the customers are related parties of the Group which the Group has consistently collected from them. For the customers who do not have the long-term contracted commitments, the Group monitors the risk on an ongoing basis and would do the business only with the credible customers by limiting the credit lines and requesting the guarantee on some cases. For the export, the credit of counterparty will be considered and will demand a payment on a case to case basis and also has commercial credit insurance. Management does not anticipate material losses from its debt collection.

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

Liquidity risk

The Group monitors its liquidity risk and maintains a level of cash and cash equivalents deemed adequate by management to finance the Group's operations and to mitigate the effects of fluctuations in cash flows.

Fair values of financial assets and liabilities

Fair values of financial assets and liabilities shown in the consolidated and separate statement of financial position at 31 December 2018 is reasonable approximation of carrying amount.

32 Commitments with non-related parties

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
	<i>(in million Baht)</i>			
<i>Capital commitments</i>				
<i>Contracted but not provided for</i>				
Plant, machinery and equipment	107	427	107	426
Total	107	427	107	426
<i>Non-cancellable operating lease commitments</i>				
Within one year	3	1	3	1
After one year but within five years	15	14	15	14
After five years	101	95	101	95
Total	119	110	119	110
<i>Other commitments</i>				
Bank guarantees	-	69	-	69
Other contracts	31	6	29	-
Total	31	75	29	69

33 Thai Financial Reporting Standards (TFRS) not yet adopted

A number of new and revised TFRS which relevant to the Group's operations are expected to have significant impact on the consolidated and separate financial statements on the date of initial application. Those TFRS become effective for annual financial reporting periods beginning on or after 1 January of the following years.

TFRS	Topic	Effective
TFRS 15	Revenue from Contracts with Customers	2019
TFRS 7*	Financial Instruments: Disclosures	2020
TFRS 9*	Financial Instruments	2020
TAS 32*	Financial Instruments: Presentation	2020
TFRIC 16*	Hedges of a Net Investment in a Foreign Operation	2020
TFRIC 19*	Extinguishing Financial Liabilities with Equity Instruments	2020

* TFRS - Financial instruments standards

Note to the Financial Statements

Global Green Chemicals Public Company Limited and its Subsidiaries
For the year ended 31 December 2018

TFRS 15 Revenue from Contracts with Customers

TFRS 15 establishes a comprehensive framework for determining whether, how much and when revenue is recognised. Revenue should be recognised when (or as) an entity transfers control over goods or services to a customer, measured at the amount to which the entity expects to be entitled.

The Group has completed an assessment of the potential impact of adopting and initially TFRS 15 and found that there will be no impact on the consolidated and separate financial statements in the period of initial application.

TFRS - Financial instruments standards

These TFRS establish requirements related to definition, recognition, measurement, impairment and derecognition of financial assets and financial liabilities, including accounting for derivatives and hedge accounting.

Management is presently considering the potential impact of adopting and initially applying TFRS - Financial instruments standards on the consolidated and separate financial statements.

34 Events after the reporting period

At the Board of Directors' meeting held on 18 February 2019, the Board agreed to propose the shareholders at the Annual General Meeting of the Shareholders on 2 April 2019 to consider and approve the following;

- Reduction of the registered capital from Baht 10,483.33 million to the new registered capital of Baht 10,236.67 million by decreasing the remaining unissued registered capital of 24.67 million shares with a par value of Baht 10 each;
- Transfer of appropriated legal reserve and share premium to compensate the deficit of the Company;
- Reduction of the registered and paid-up capital from Baht 10,236.67 million to Baht 9,724.83 million by reducing par value from Baht 10 to Baht 9.50 to compensate the deficit of the Company.



Audit Fee and Non-Audit Fee

Audit Fee

GGC and its subsidiaries paid the audit fee amounting to THB 1,420,000 to KPMG Phoomchai Audit Ltd., for the fiscal year 2018 of this amount GGC paid THB 1,100,000 and its subsidiaries paid THB 320,000.

Non-Audit Fee

For the past fiscal year 2018, GGC paid tax consulting service to the related business of the independent auditors amounting THB 450,000.



Company Information

Name : Global Green Chemicals Public Company Limited

Initial : GGC

Website : www.ggcplc.com

Registered Number : 0107559000044

Number and Value of Issued Shares :

As of December 31, 2018, the Company registered share capital was THB 10,483,333,000, made of 1,048,333,300 common shares at par value THB 10 per share, Paid-up capital was THB 10,236,667,000

Registered as Company Limited :

July 28, 2005

Registered as Public Company Limited :

February 18, 2016

First Day Trade on the SET : May 2, 2017

Core Businesses : Methyl Ester

: Fatty Alcohols

: service and other businesses

Number of Employees : 201 as of December 31, 2018

Contact

Investor Relation

Tel : +66 (0) 2 558-7345, +66 (0) 2 558-7306

Email : ir@ggcplc.com

Corporate Affairs and Corporate Secretary

Tel : +66 (0) 2 558-7310, +66 (0) 2 558-7304

Email : Corporategovernance@ggcplc.com

Head Office

555/1 Energy Complex Building A, 4th Floor
Vibhavadi Rangsit Road, Chatuchak, Chatuchak,
Bangkok 10900

Tel : +66 (0) 2558-7300

Fax : +66 (0) 2558-7301

Branch 1

8 I-8 Road, Map Ta Phut Industrial Estate
Tambon Map Ta Phut, Amphoe Mueang Rayong,
Rayong 21000

Tel : +66 (0) 3899-4000

Fax : +66 (0) 3897-7444

Branch 2

8 Soi G 12, Pakon Songkroh Rat Road,
Tambon Map Ta Phut Amphoe Mueang Rayong,
Rayong 21000

Tel : +66 (0) 3899-4000

Fax : +66 (0) 3897-7444

Branch 3

199/1 Moo 2, Tambon Khao Sok, Amphoe Nong Yai,
Chon Buri 20190

Tel : +66 (0) 3899-4000

Fax : +66 (0) 3897-7444

References

Securities Registrar

Thailand Securities Depository Co., Ltd.

93 Ratchadaphisek Road, Din Daeng, Din Daeng,
Bangkok 10400

Tel : +66 (0) 2009-9000

Call Center : +66 (0) 2009-9999

Fax : +66 (0) 2009-9991

Website : www.set.or.th/tsd

Auditor :

1) Mr. Nutthaphong Tantijuttanon CPA 8829

2) Mr. Charoen Phosamritlert CPA 4068

3) Mr. Waiyawat Kosamarnchaiyakij CPA 6333

KPMG Phoomchai Audit Ltd.

50th-51st Floor, Empire Tower,
195 South Sathon Road, Yan Nawa, Sathon,
Bangkok 10500

Tel : +66 (0) 2677-2000

Fax : +66 (0) 2677-2222

Website : www.kpmg.co.th

Legal Advisors :

Baker & McKenzie Limited

5th, 21st-25th Floor, Abdulrahim Place
990 Rama IV Road, Silom, Bang Rak,
Bangkok 10500

Tel : +66 (0) 2636-2000

Fax : +66 (0) 2636-2111

Website : www.bakermckenzie.com

**Weerawong, Chinnavat & Partners Company
Limited**

22nd Floor, Mercury Tower
540 Ploenchit Road, Lumpini, Pathum Wan,
Bangkok 10330
Tel : +66 (0) 2264-8000
Fax : +66 (0) 2657-2222
Website : www.weerawongcp.com

Siam Premier International Law Office Limited

26th Floor, The Offices at CentralWorld,
999/9 Rama I Road, Pathum Wan, Pathum Wan,
Bangkok 10330
Tel : +66 (0) 2646-1888
Fax : +66 (0) 2646-1919
Website : www.siamlaw.co.th

Domnern Somgiat & Boonma Law Office Limited

719 Si Phraya Road, Bang Rak, Bang Rak,
Bangkok 10500
Tel : +66 (0) 2639-1955
Fax : +66 (0) 2639-1956-8
Website : www.dsb.co.th

Thep Law Office

Suite 1106–1108, 11th Floor, Exim Building
1193 Phahonyothin Road, Sam Sen Nai,
Phaya Thai, Bangkok 10400
Tel : +66 (0) 2781-1679
Fax : +66 (0) 2271-2367
Website : www.theplaw.com

Bancha Law Accounting

34/17 Charansanitwong Road, Arun Ammarin,
Bangkok Noi, Bangkok 10700
Tel : +66 (0) 2434-1919

Abbreviations and Glossary

Definitions	
SET	The Stock Exchange of Thailand
The Company	either (1) Global Green Chemicals Public Company Limited or (2) Global Green Chemicals Public Company Limited and TFA (as the case may be)
PTT Group, PTT affiliates	PTT and its subsidiaries or associates
GC Group, GC affiliates	GC and its subsidiaries or associates
PTT	PTT Public Company Limited
Securities and Exchange Act	Securities and Exchange Act B.E. 2535 (A.D. 1992) (and its amendment)
SEC	The Securities and Exchange Commission, Thailand
EPPO	Energy Policy and Planning Office
ONEP	Office of Natural Resources and Environmental Policy and Planning
Advanced Biochemical	Advanced Biochemical (Thailand) Company Limited
Agrar Technik	Agrar Technik GmbH & Co. KG
B7	Having a biodiesel content of 7% and diesel 93%
B10	Having a biodiesel content of 10% and diesel 90%
B20	Having a biodiesel content of 20% and diesel 80%
B25	Having a biodiesel content of 25% and diesel 75%
Bangchak Biofuel	Bangchak Biofuel Company Limited
BASF (Thai)	BASF (Thai) Company Limited
BCP	Bangchak Corporation Public Company Limited
BSA	Business Services Alliance Company Limited
Biocomplex	Biochemical Industrial Estate Project
BOI	The Board of Investment Thailand
Chevron	Chevron (Thailand) Limited
Dhipaya	Dhipaya Insurance Public Company Limited
EIA	Environmental Impact Assessment
EFT	Eastern Fluid Transport Company Limited
Emery	Emery Oleochemicals (M) Sdn. Bhd. and Emery Specialty Chemicals Sdn. Bhd.
EPO	Eastern Palm Oil Company Limited
EPS	Eastern Pipeline Services Company Limited
ESSO	Esso (Thailand) Public Company Limited
GC	PTT Global Chemical Public Company Limited
Glycol	GC Glycol Company Limited

Definitions

GCL	GC Logistics Solutions Company Limited
GCME	GC Maintenance and Engineering Company Limited
GGC Bio	GGC Biochemicals Company Limited
GPSC	Global Power Synergy Public Company Limited
HPC	Home and Personal Care products
ICIS	Independent Chemical Information Service, a unit of Reed Business Information Limited, a service provider of intelligence on chemical market prices and analyses, including those of petrochemicals and oleochemicals
IRPC	IRPC Public Company Limited
KTIS	Kaset Thai International Sugar Corporation Public Company Limited
Linde	Linde (Thailand) Public Company Limited
LMC International	LMC International Limited
MD & A	Management discussion and analysis
NatureWorks	NatureWorks LLC
NPC S&E	NPC Safety and Environmental Service Company Limited
NPCSG	NPC S&E Security Guard Company Limited
PTTEP	PTT Exploration and Production Public Company Limited
PTT Digital	PTT Digital Solutions Company Limited
PTT MCC	PTTMCC Biochem Company Limited
PPCL	PTT Phenol Company Limited
Shell	The Shell Company of Thailand Limited
SPRC	Star Petroleum Refining Public Company Limited
SUN	Solution Creation Company Limited
TEX	Thai Ethoxylate Company Limited
TETSO	Thai Eastern Top Seeds Oil Company Limited
TFA	Thai Fatty Alcohols Company Limited
TOP	Thai Oil Public Company Limited
TOP Solvent	TOP Solvent Company Limited
TOP Solvent Vietnam	TOP Solvent (Vietnam) Limited Liability Company
TTT	Thai Tank Terminal Limited
Uhde	Uhde GmbH Germany, now known as ThyssenKrupp Industrial Solutions
Unilever	Unilever Thai Holdings Company Limited
VNT	Vinythai Public Company Limited

Glossary

Palm Fatty Acid Distillate (PFAD)	By-product of the RBD Palm Oil refining process and the Methyl Ester process.
Palm Kernel Fatty Acid Distillate	By-product of the Crude Palm Kernel Oil refining process.
Free Fatty Acid (FFA)	Fatty acid that is not a molecular composition of Triglyceride.
Hydrogenation	Process of adding hydrogen to precursors, part of the Fatty Alcohols process.
Trans-esterification	Chemical reaction between fat or oil with alcohols to obtain Methyl Ester and Glycerine in the presence of catalysts.
Crude Glycerine	By-product of the process for Methyl Ester and Fatty Alcohols.
Refined Glycerine	Refined Crude Glycerine that is a precursor of personal care products
Yellow Glycerine	Refined Crude Glycerine with impurities and a low boiling point.
Fatty Alcohol Residue	Product derived at the bottom of the Fatty Alcohols distillation tower, with a higher boiling point than those of C ₁₈ Fatty Alcohols.
Methyl Ester Residue	Product derived at the bottom of the Methyl Ester distillation tower, consisting of partially reacted oil, Methyl Ester with longer molecules than C ₁₈ , and other impurities.
Debottlenecking	Processes designed to solve problems or limitations for a given piece of machinery or equipment or a given procedure, resulting in greater capacity.
Base Diesel Fuel or Petroleum Diesel Fuel	Diesel obtained from Crude Oil (Petroleum) refining.
High-Speed Diesel or Retail Diesel or Diesel	Diesel meant for domestic retail sale, a blend between base diesel and Methyl Ester at a proportion announced by the Department of Energy Business for use in high-revolution diesel engines, including passenger cars, trucks, tractors, and heavy machinery with over 1,000 revolutions per minute.
Crude Palm Oil (CPO)	Oil obtained from the pressing of fresh fruit bunches, a raw material for Methyl Ester or RBD Palm Oil.
RBD Palm Oil or RBDPO	Oil obtained from CPO refining, a raw material for Methyl Ester.
Crude Palm Kernel Oil (CPKO)	Oil obtained from Palm Kernel Extraction, refinable into RBD Palm Kernel Oil.
RBD Palm Kernel Oil (RBDPKO)	Oil obtained from RBD palm kernel refining, a raw material for Fatty Alcohols.
Lauric Oil	Oil whose main composition contains lauric acid, a saturated fatty acid with 12 carbon atoms, commonly found in Crude Palm Kernel Oil and coconut oil.

Glossary

Biodiesel	Fuel obtained from natural products like vegetable oil and animal fats, whether used or new, for use in diesel engines. Biodiesel bears similar physical characteristics to petroleum diesel, but is classified as an alternative energy. As a rule, it may include Methyl Ester (called B100).
Palm Stearin	Edible palm fat derived from the separation of grease from the Palm Oil process, used for consumption.
Fatty Acid	Basic Oleochemicals that are acidic, a precursor for many downstream industries, including food and personal-care industries (like soaps and cosmetics) and the rubber industry.
Fatty Alcohols	Basic Oleochemicals that are alcohol, a precursor of surfactants and personal-care products.
Pre-Cut Fatty Alcohols	Fatty Alcohols with short molecule chains, consisting of C_6 - C_{10} Fatty Alcohols, that are not yet refined into grades of pure Fatty Alcohols.
Main-Cut Fatty Alcohols	Fatty Alcohols with C_{12} - C_{18} molecule chains, consisting of C_{12} - C_{14} (medium-long) and C_{16} - C_{18} (long), that are not yet refined into grades of pure Fatty Alcohols.
Short-Chain Fatty Alcohols	Refined Fatty Alcohols containing short molecule chains. Upon refining, they yield C_6 , C_8 , and C_{10} Fatty Alcohols.
Mid-Chain Fatty Alcohols	Refined Fatty Alcohols containing Medium-long molecule chains. Upon refining, they yield C_{12} - C_{14} Fatty Alcohols.
Long-Chain Fatty Alcohols	Refined Fatty Alcohols containing long molecule chains. Upon refining, they yield C_{16} , C_{18} , or C_{16} - C_{18} Fatty Alcohols.
Methyl Ester	Also called B100, Methyl Ester can blend with basic diesel into retail diesel as announced by the Department of Energy Business, and can be processed into downstream Oleochemicals.
Main-Cut Crude Methyl Ester	Medium-long and long-molecule Methyl Ester (C_{12} - C_{18}), an intermediate product group derived from Methyl Ester distillation for Fatty Alcohols.
Methanol	Chemical used in the Trans-esterification process.
Raw Materials	Palm product, including Crude Palm Oil, RBD Palm Oil, Palm Kernel Oil, Crude Palm Kernel Oil, or RBD Palm Kernel Oil for production processes. Raw materials include chemical precursors, namely Hydrogen and Methanol.
Catalyst	Chemical used in the Methyl Ester process, namely Potassium Hydroxide or Sodium Methylate, designed to speed up Trans-esterification, and used in the Fatty Alcohols process, namely Hydrogenation Catalysts to speed up Hydrogenation.

Glossary

Trans-esterification Unit	Methyl Ester production unit, where Palm Oil or Palm Kernel Oil reacts with Methanol in the presence of catalysts (Potassium Hydroxide or Sodium Methylate).
Utilization Rate	Actual capacity in percent of the nameplate capacity.
Oleochemicals	Chemicals derived from oil or natural fats (plant and animal fats). Oleochemicals, including Methyl Ester and Fatty Alcohols, can be converted into assorted downstream products.
RSPO (Roundtable on Sustainable Palm Oil)	Standard for sustainable palm oil production that is environmentally friendly and responsible to communities.





Global Green Chemicals Public Company Limited

555/1 Energy Complex Building A, 4th Floor, Vibhavadi-Rangsit Road,
Chatuchak, Chatuchak, Bangkok 10900 Thailand

Tel : 66 (0) 2558-7300

Fax : 66 (0) 2558-7301

www.ggcplc.com